CLEARINGHOUSE

MQC MANUAL/2000

MEDICAID QUALITY CONTROL

Section 2

Sampling Methods

MANUALS
RA
412
.4
U553
1978
sect.2000

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Health Care Financing Administration - Medicaid Bureau - Division of Quality Control

March 1978

RA
412.4
.U553
1978
sect. 2000

CLEARINGHOUSE

MQC MANUAL/2000

MEDICAID

QUALITY CONTROL

SECTION 2

SAMPLING METHODS

Sampling Manual Users Note
April 1978

Changes in Section 2 from the February Draft

Section or Sub-Section	Change
2310	Redefinition of a sample unit.
2320	MQC sample requirements change if AFDC or SSI sample requirements change.
2330	Guidelines on exclusion/inclusion of cases in different populations.
2333	Inclusion in MAO, of SSI recipients becoming ineligible for Title XVI due to 4/77 COL.
2340	Sample 400 cases to determine accuracy of case codes on sample frame.
2350	Cases added to or deleted from list during the month are included, retroactive eligibles excluded.
2360	Collect claims starting only with sixth month following review month.
2400	Submit sampling plans 60 days before review period.
2450	Inclusion of claims collection procedures in sampling plan documentation.
2611	SSI sample may be sub-stratified by FFL, Non-FFL - requires weighting of data.
2621, 31	1. Determine the number of Medicaid - SSI cases in SSI-QA sample by cross reference. 2. SSI-QA sample may be sub-stratified by FFL, Non-FFL. Substitution procedure must be done separately. Can tell breakdown in State sample by SDX.

Appendix A - FFS, Non-FFL breakdown
Changes in SSI sample sizes

TABLE OF CONTENTS

SECTION		Page
2100	QUALITY CONTROL SAMPLING AND STATISTICAL METHODS	1
	2110 Quality Control Sampling	1
	2120 Overview of the Medicaid Quality Control System	2
	2130 Overview of the MQC Sampling Manual	4
	2131 Using the MQC Sampling Manual	5
2200	BASIC STATISTICAL CONCEPTS	6
	2210 Types of Errors	6
	2211 Sampling Errors	6
	2212 Non-Sampling Errors	6
	2220 Validity and Reliability of Statistical Data	7
	2221 Bias	7
	2222 Precision	8
	2230 Types of Estimators	11
	2240 Stratification	11
2300	GENERAL REQUIREMENTS OF MEDICAID QUALITY CONTROL	12
	2310 Sample Unit	12
	2320 Sample Sizes	12
	2330 Populations to be Sampled	13

SECTION | Page

2331 AFDC..... 14

2332 SSI (1634 States Only)..... 14

2333 Medical Assistance Only (1634 States Only)..... 14

2334 Medical Assistance and Others (Medical Assistance Only and State Independent SSI Cases - 209(b) and State Determination/SSI Criteria States)..... 17

2340 Sampling Frames..... 18

2350 Sample Selection..... 18

2360 Claims Collection..... 18

2400 REQUIREMENTS FOR SAMPLING PLAN DOCUMENTATION.... 19

2410 Population to be Sampled..... 19

2420 Sample Selection Lists..... 20

2430 Sample Size..... 21

2440 Sample Selection Procedures..... 21

2450 Claims Collection Procedures..... 21

2500 SYSTEMATIC RANDOM SAMPLE SELECTION PROCEDURES..... 22

2510 Calculation of the Sampling Interval..... 22

2520 Selection of Cases for the Review Month... 25

2600 PROCEDURES FOR SELECTING THE MEDICAID QUALITY CONTROL SAMPLE..... 27

2610 1634 States..... 28

2611 SSI-QA Sample Integration Option (Use of AFDC-QC and SSI-QA Reviews)..... 28

2612 AFDC-QC Sample Integration Only (No SSI-QA Reviews Used)..... 31

2620 209(b)/1902(f) States..... 35

2621 SSI-QA Sample Integration Option (Use of AFDC-QC and SSI-QA Reviews). 36

SECTION

		Page
	2622 AFDC-QC Sample Integration Only (No SSI-QA Reviews Used).....	41
	2630 State Determination/SSI Criteria States.....	44
	2631 SSI-QA Sample Integration Option (Use of AFDC-QC and SSI-QA Reviews).....	44
	2632 AFDC-QC Sample Integration Only (No SSI-QA Reviews Used).....	49
2700	PROCEDURES FOR CORRECTING THE MONTHLY SAMPLE FOR EXCESSIVE OVERSAMPLING AND UNDERSAMPLING.	52
	2710 Correcting for Excessive Oversampling..	52
	2720 Correcting for Undersampling.....	53
	2730 Alternate Method of Correcting for Oversampling or Undersampling.....	54
	2731 Reporting of Data from Samples Obtained Using Different Sampling Intervals (Stratified Samples)...	55
2800	GUIDELINES FOR EXPANDED AND STRATIFIED SAMPLES.....	57
	2810 Guidelines for Expanding the Sample Size.....	57
	2820 Guidelines for Further Stratification..	58
2900	ERROR RATES.....	59
	APPENDIX A - Minimum Required Number of Completed Reviews.....	62
	APPENDIX B - Table of Random Sampling Numbers.....	64
	APPENDIX C - Glossary of Terms.....	70
	APPENDIX D - Claims Cut-Off Correction Factor Methodology.....	75

EXHIBITS

		Page
2600 - 1	1634 Contract States - Full Integration	29
2600 - 2	1634 Contract States - Partial Integration	32
2600 - 3	209(b)/1902(f) States (or State Determination - SSI Criteria States) - Full Integration	37
2600 - 4	209(b)/1902(f) States (or State Determination - SSI Criteria States) - Partial Integration	42
D - 1	Claims Cutoff Schematic	76
D - 2	Correction Factor Worksheet for 4 - Month Cutoff.	77

2100 QUALITY CONTROL SAMPLING AND STATISTICAL METHODS

The purpose of this section is to provide an overview of quality control sampling and the specific sampling procedures for the Medicaid Quality Control process.*

2110 QUALITY CONTROL SAMPLING

Administrators have been making decisions on the basis of samples for many years. One can cite many cases where samples have served the purpose better than a complete enumeration of the total population.

Sampling permits administrators to cut costs, reduce manpower requirements, gather vital information more quickly, obtain data that could not possibly be available otherwise, obtain more comprehensive data, and in some instances actually increase the accuracy of their statistics.

In the Medicaid Quality Control (MQC) system, the only practical method of validating eligibility of the total caseload and determining the dollar value of eligibility, claims processing and third party liability errors is by sampling. Any attempt to make such validations and determinations at any point in time by reviewing every case would be an enormous and unwieldy undertaking. In addition to the considerable costs involved, the problems in administering such an operation would greatly increase the chance of obtaining poor quality data that could invalidate the findings.

Sampling is defined as the selection of a part of a whole (the "universe") for the purpose of drawing conclusions about the entire universe from a study of this part. In the Medicaid Quality Control system, the review of a sample of cases is only incidentally concerned with errors identified in the sample. The prime concern is with the identification of types and amounts of errors in the sample for purposes of (1) drawing inferences about the total caseload and (2) utilizing the findings of the samples to develop cost effective methods of eliminating errors that lead to erroneous Medicaid expenditures for the total caseload.

---

*These sampling procedures are revisions to those which were previously in effect for the Medicaid Eligibility Quality Control System and reflect the changes in Quality Control's scope and review process which have been made as part of the revised MQC program.

2120 OVERVIEW OF THE MEDICAID QUALITY CONTROL SYSTEM

The Medicaid Quality Control system described in this Manual is based upon the following design concepts:

- The sample unit for the MQC system is the Medicaid case (Medical Assistance Unit).

- The universe of interest is the entire Medicaid caseload. This requires sample selection and data estimates for all categories of Medicaid cases.

- The scope of the review process includes consideration of misspent Medicaid funds that result from claims processing errors and failure to collect third party funds (e.g., through insurance coverages that may be available to pay for a beneficiary's medical expenses) as well as misspent Medicaid funds that result from eligibility errors.

- The sample includes:

  a) the AFDC-QC sample for that month

  b) a random sample of non-AFDC cases

  c) at the State's option, cases from the SSI-QA sample for the month

The essential steps in the MQC process are as follows:

- A sample of Medicaid cases is selected monthly.

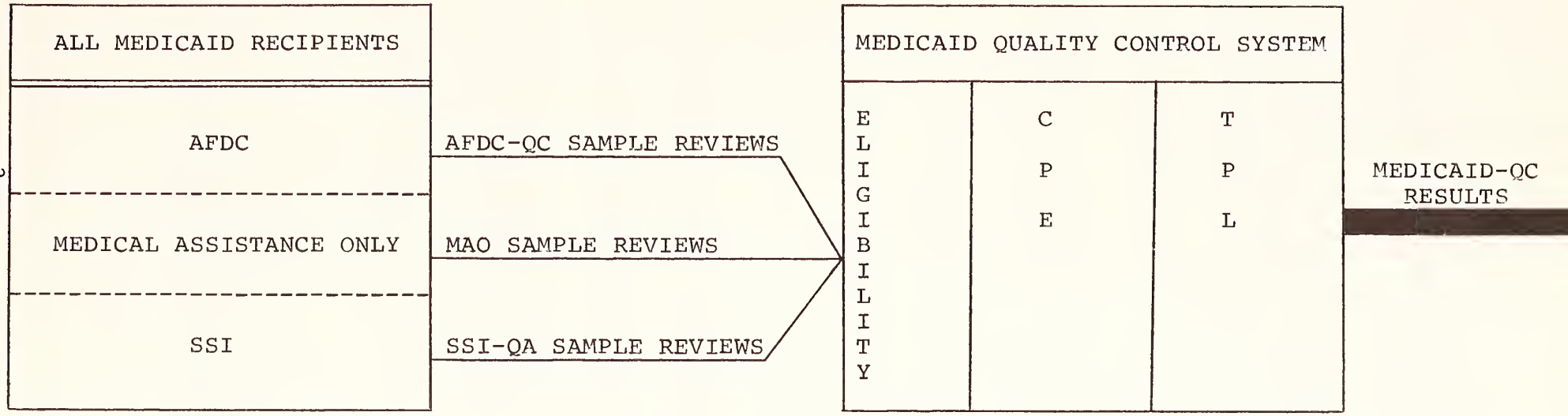
- The eligibility status of sampled cases for the review month is determined and potential third party liability and claims for medical services are identified by reviewing the sampled cases;

- Claims for services received during the review month by members of the sampled cases which are paid before, during and for four months after the review month, are collected and assembled at the beginning of the sixth month following the review month.

- Review of the paid claims for claims processing and third party liability errors is conducted;

- Payment error rates are calculated using claims paid for services received during the review month by sampled cases.

OVERVIEW OF THE INTEGRATED MEDICAID QUALITY CONTROL SYSTEM



2130 OVERVIEW OF THE MQC SAMPLING MANUAL

The purpose of this Sampling Manual is to provide a basic understanding of the MQC sample requirements and general information on statistical techniques and sampling methods. It describes in detail the procedures that are to be employed in determining the sample size (i.e., the number of cases to be selected), establishing the sample selection list (i.e., the list from which the sample is to be selected), and selecting the sample elements (i.e., the actual Medicaid cases that are to be reviewed). While the basic sample requirements are the same for all States, there will be a number of variations in how the sample selection lists are established and how the sample selection proceeds. Such variations will depend upon two factors:

- The nature of Medicaid eligibility determinations for SSI recipients; and

- Whether the State wishes to employ the sample used for the SSI Quality Assurance Program (SSI-QA) as an integral part of the MQC sample.

States may be categorized according to how Medicaid eligibility is determined for SSI recipients. The three different categories of States are as follows:

- 1634 Contract States - States in which Medicaid eligibility determinations for SSI recipients are made by the Federal government under a contract from the State using the same criteria as in SSI eligibility determination.

- 209(b)/1902(f) States - States in which Medicaid eligibility determinations for SSI recipients are made by the State and in which Medicaid benefits may not be afforded to all SSI recipients, because Medicaid eligibility requirements are more stringent than SSI eligibility requirements.

- State Determination/SSI Criteria States - States in which Medicaid eligibility determinations for SSI recipients are made by the State, using the same criteria the Federal government uses in determining SSI eligibility.

The specific sample selection procedures for each category are explained in separate sections of the Sampling Manual as follows:

- 1634 Contract States - Section 2610

- 209(b)/1902(f) States - Section 2620

- State Determination/SSI Criteria States - Section 2630.

It is therefore necessary that a State become familiar with only those sections of the Sampling Manual that pertain to it. For example, 209(b) States need not be concerned with those sections of the Sampling Manual that are designated as applying to 1634 or State Determination/SSI Criteria States only.

Some variations in the sample selection procedures will also result if a State integrates the SSI-QA sample into the MQC sample. These variations are explained for each category of State, in Sections 2611, 2621 and 2631 of this manual.

2131 Using the MQC Sampling Manual

The Medicaid Quality Control (MQC) System Manual comprises the following sections:

- Section 1000 - Objectives and Administration;
- Section 2000 - Sampling Methods;
- Section 3000 - Review Process;
- Section 4000 - Reports and Data Evaluation; and
- Section 5000 - Data Analysis

In addition to the manual, four guides are offered to assist States with implementation and use of QC results. They are the (1) Training Guide, (2) Instructor's Guide, and (3) Technical Implementation Guide.
Guide. These manuals and guides are available from HCFA Regional Offices.

While this Sampling Manual alone should be sufficient to provide all necessary information to select an unbiased random sample that meets requirements set forth by HCFA, the user of this MQC Sampling Manual will find it helpful to have a better understanding of other aspects of the MQC process than is provided by the brief overview here. The manuals and guides identified previously in this section may be referenced. If additional information beyond that available from these sources is required or some aspects of the sampling methods or MQC process in general require clarification, the HCFA Regional Office should be contacted.

2200 BASIC STATISTICAL CONCEPTS

This section summarizes some basic statistical concepts around which the MQC sample design is built.

2210 TYPES OF ERRORS

In determining estimates of population characteristics two types of errors may occur. These errors are characterized as sampling errors and non-sampling errors.

2211 Sampling Errors

When a sample is selected through a random procedure from a universe, the estimates of a universe characteristic from that sample will generally be different from the true value of the universe characteristic simply because the estimates are based upon a sample. Such differences are termed sampling errors.

Thus, a sampling error may be defined as the difference between the value of the characteristic as estimated from the sample and the true universe value of the characteristic. Although such errors cannot be avoided, they can be controlled and measured (in probability samples).

2212 Non-Sampling Errors

Non-sampling errors, on the other hand, are generally not measurable (except by the use of sample checks). They are usually of two types - those caused by people or machines and those which result in biased data. Examples of the first types of non-sampling errors include mistakes in the collection of data; mistakes made in processing the data, such as errors in coding, errors in tabulating the results and making calculations; and other types of human and mechanical failures.

The second type of non-sampling errors results from many sources, such as dropped cases, "convenient" rather than scientific sampling, and use of improper methods of estimating from the sample.

2220 VALIDITY AND RELIABILITY OF STATISTICAL DATA

Sampling and statistical procedures by themselves cannot assure validity (or freedom from bias) of the findings - that is, that the errors found are "true" errors and that their correction is important to effective operation of the Medicaid program. The validity of the statistical data depends upon how adequate the review schedule is in the scope, detail, and significance of the data to be collected; and the degree to which reviews are carried out adequately and objectively.

Adequate and technically sound sampling procedures can assure a known degree of reliability (also referred to as precision) of statistical data. That is, if sampling procedures are soundly based in probability theory, the administrator can be assured that the results he gets from one sample taken from the total caseload will be the approximate results he would get if he reviewed the whole caseload.

The MQC sample design is such that the reliability of the sample results can be measured and that it is relatively high. These results can be made more reliable through proper application of statistical methods, as well as through an increase in sample size.

Because of their importance, examples of sources of bias (which affect validity) and explanations of the formulas involved in measuring precision (reliability) are discussed in some detail.

2221 Bias

A biased sample is one which does not represent the population or universe from which it was selected. For example, suppose that an opinion survey was conducted in the middle of the day by interviewing everyone on a busy street willing to stop for ten minutes for the interview. If 90 percent of those interviewed had a favorable opinion on the issue involved, it would not necessarily follow that about 90 percent of the city residents have a favorable opinion. People on a particular street at a particular time of day would more than likely be unrepresentative of the total city population. Also, the fact that the sample consisted only of individuals who could spare ten minutes in the middle of the day may make the sample even more unrepresentative. Such a sample could contain bias.

One source of bias in quality control of medical assistance deals with cases which cannot be reviewed. "Not reviewed" cases fall into several categories. Such cases may be proper for inclusion in the sample, but they cannot be reviewed by the quality control unit for reasons such as client moved out of State, unable to locate, client unwilling to give information, or for some other reason.

If the number of "not reviewed" cases is small, the bias resulting from their non-completion will also be small. If the number of such cases is large, a considerable bias may be introduced in the sample. In effect, a segment of the total caseload is unrepresented if the sample cases for that segment are not reviewed. If a substantial number of sample cases are not reviewed, there is no assurance that conclusions drawn from the sample apply to the total caseload. The number of such cases cannot be anticipated but should be compensated for by oversampling. It must be emphasized, however, that even if the correct number of cases is compensated for by oversampling, non-response bias may still be present if there are unreviewed sample cases.

Another source of bias is prior knowledge by the local agency of which cases will be reviewed. This prior knowledge could result if the agency, intentionally or unintentionally, is treating these cases in a special manner, making the QC results unrepresentative of the whole caseload. Special precautions, therefore, must be taken to ensure that the cases selected in the sample are not known to the local agency any earlier than is required.

2222 Precision

Findings computed from a sample are called point estimates. In order to predict the actual caseload error rate with any degree of certainty from this point estimate, a range of possible values is computed, called a confidence interval. The first step in arriving at the confidence interval is to compute the "variance" of the point estimate. For systematic random samples, when simulating random selection, the estimated variance of a rate of error (proportion) with a fixed sample size is computed approximately by the following equation:

$$VAR\ (p) = p \times \frac{(1-p)}{n}$$

Where: p is the estimated case rate of error (proportion) in the sample; and

n is the sample size.

The precision of a sample estimate is measured by the standard error of the estimate, SE (p), which is the square root of the estimated variance.

$$SE(p) = \sqrt{VAR(p)} \quad \text{or} \quad \sqrt{\frac{p(1-p)}{n}}$$

The precision specification consists of two elements. The administrative decision on the desired degree of reliability determines the sample size necessary to meet the specified probability level and precision range. For example, the administrator might specify that he would like his estimate of the ineligibility case rate in the caseload to be within 1 percentage point of the figure that would be obtained by a complete review of the entire caseload. This is called the tolerance specification or limit.

Since the administrator is dealing with a sample, he must also assume a certain degree of risk. Thus, in the example given above, if the sampling error had been computed so that the estimate plus or minus 1 percent would include the value estimated in 95 out of 100 samples of the same universe, the estimate plus or minus 1 percent would be called the 95 percent confidence interval. The 95 percent confidence interval is approximately equal to plus or minus 2 standard errors of the normal distribution and is expressed as follows:

$$95\%\ CI = p \pm 2\ SE(p)$$

This confidence interval will cover the true value of "p" about 95 percent of the time when sampling repetitively. Expressed in another way, we can be reasonably confident that about 95 percent of the sample proportions will be within 2 standard errors of their corresponding population proportion.

Using one of the preceding measures it is possible to compute the sample size that is needed to obtain a desired precision. For example, to obtain the sample size required to be 95 percent confident that a sample proportion (p) will be within $\pm$ 1 percent of the true proportion "p" when "p" is assumed to be 4 percent, the computation is as follows:

$$\text{Tolerance Specification} = 2\sqrt{\frac{P(1-P)}{n}}$$

$$\text{Substituting: } (P=.04) = 2\sqrt{\frac{.04(1-.04)}{n}}$$

$$n = 1536 \text{ or approximately } 1500 \text{ cases.}$$

In MQC, the sample design is stratified (see Section 2240). Precision for stratified samples is computed differently from the simple example described above.

In a stratified sample, any estimate for the entire population is computed from information in each stratum, or group. Likewise the variance of the estimate must take into account variance information from each stratum, appropriately weighted and combined.

If in each stratum, a systematic sample (approximating a simple random sample) is chosen, the formula for estimating the variance of the overall error rate is:

$$\text{VAR}\quad(p) = \sum_{h=1}^{K} \left(\frac{Nh}{N}\right)^2 \frac{Ph\ (1-Ph)}{Nh}$$

Where:

K is the number of strata

Nh is the population size in stratum h

N is the total population size

Ph is the estimated case error rate in stratum h

Nh is the sample size in stratum h

The standard error of P is again the square root of the estimated variance, and is used in the calculation of confidence intervals. (Confidence intervals <u>are</u> calculated in the same manner as detailed above for the systematic or simple-random samples.)

For example, a sample is drawn from three strata. The population size in each stratum are 1000, 2000, and 4000; the sample sizes are 50, 200, and 200; and the case error rate estimates are .05, .1, and .2 respectively. The overall error rate estimate is:

$$P = \left(.05 \times \frac{1000}{7000}\right) + \left(.1 \times \frac{2000}{7000}\right) + \left(.2 \times \frac{4000}{7000}\right)$$

$$= .15$$

and

$$\text{VAR}(p) = \left(\frac{1000}{7000}\right)^2 \times \frac{(.05)(.95)}{50}$$

$$+\left(\frac{2000}{7000}\right)^2 \times \frac{(.1)(.9)}{200} + \left(\frac{4000}{7000}\right)^2 \times \frac{(.2)(.8)}{200}$$

$$= .00032$$

and $\text{SE}(p) = \sqrt{\text{VAR}(p)} = \sqrt{.00032} = .018$

2230 TYPES OF ESTIMATORS

Among the measures that will be computed from sample results are:

- Totals - Total dollars paid or total dollars in error;
- Averages - Average dollars in error per case;
- Proportions - The proportion of cases in error;
- Ratios - The ratio of dollars in error to total dollars.

2240 STRATIFICATION

In many populations the elements may differ markedly, and thus, the measure of variability may be relatively high. Consequently when a sample is selected, it may be necessary to use a relatively large sample size to achieve a given level of precision. In order to reduce the sample size for a given level of precision, the universe may be divided into several homogeneous groups so that the elements in each group are more alike than the elements in the total universe. Each group is called a stratum and the process of dividing the population into groups is referred to as stratification. In general, this process of stratification allows greater precision for a given sample size or allows a smaller size for a given level of precision.

There are other reasons stratification may be used. These include the following:

1) Obtaining estimates for particular portions of the population

2) Administrative convenience (the population may be stratified by geographic locations, or some other organization of the population when population is "naturally stratified").

The sample selection is then performed independently in each stratum and results are combined as shown above in Section 2222.

2300 GENERAL REQUIREMENTS OF MEDICAID QUALITY CONTROL

The Medicaid Quality Control System operates on a six month cycle. There are two such cycles in each Federal fiscal year, the first being October 1 through March 31, the second being April 1 through September 30. Each six-month cycle is divided into six monthly periods. Approximately one-sixth of the six-month sample (as is explained in Sections 2510 and 2520 of this manual) is selected for each of the six review months and the review activities (i.e., eligibility review, claims collection, claims processing and third party liability review) are conducted according to the MQC re-review process described in detail in Section 3000 of this manual.

In order to minimize the level of effort required to select the sample and conduct the required reviews, the AFDC-QC sample is included in the MQC sample to represent that portion of the Medicaid population who are also AFDC recipients. SSI-QA sample cases may also be included in the MQC sample to represent that portion of the Medicaid population who are also SSI recipients. The methods of sample selection are explained in detail in Sections 2500 and 2600 of this manual.

2310 SAMPLE UNIT

The sample unit for Medicaid Quality Control is the Medicaid case. A Medicaid case is defined as:

1) for the AFDC population, the AFDC case which receives a payment for the month

2) for the SSI population, the SSI payees for the month determined eligible for Medicaid

3) for non-cash payment cases, a group of Medicaid beneficiaries (a) who are eligible for Federal Financial Participation in the cost of services, and (b) for whom Medicaid eligibility was determined based upon common financial circumstances.

2320 SAMPLE SIZES

Minimum numbers of case reviews that must be completed by each

State have been established and are presented in Appendix A of this Sampling Manual. The number of cases that are to be selected for the sample is based upon these minimum numbers of required case reviews. The actual sample sizes selected (i.e., the number of cases that are selected from the sample selection lists) are greater than the minimum number of required reviews in consideration of a number of variables. How sample sizes are determined is explained in Section 2500 of this Sampling Manual.

For 1634 States, minimum numbers of case reviews have been established for three categories of Medicaid cases. They are SSI, AFDC, and Medical Assistance Only. For 209(b) and State Determination/SSI Criteria States minimum numbers of case reviews are set for only two categories of Medicaid cases. They are (1) AFDC and (2) Medical Assistance and Others. The specific Medicaid case classifications included in each of these categories are described in Section 2330 of this Sampling Manual; however, brief definitions of each follow below.

- AFDC - That portion of the Medicaid population included under the AFDC-QC system;
- SSI - That portion of the Medicaid population included under the SSI-QA system;
- Medical Assistance Only - That portion of the Medicaid population not included under either the AFDC-QC or SSI-QA systems;
- Medical Assistance and Others - That portion of the Medicaid population not included under the AFDC-QC system.

If AFDC-QC or SSI-QA sample sizes or requirements change, MQC requirements will reflect these changes.

2330 POPULATIONS TO BE SAMPLED

The sections below describe the Medicaid cases falling within each of the four categories described in Section 2320. The population in each sampling month includes all cases which were eligible for any part of the month (excluding retroactive cases). Note that the definition of inclusions and exclusions in the AFDC population are determined by AFDC-QC and in the SSI population, by SSI-QA (if the State elects the SSI-QA option).

The eligibility of every Medicaid beneficiary must be subject to a QA or QC review. Any beneficiary whose eligibility is not subject to review as part of the AFDC-QC or SSI-QA systems must be included in the MAO (Sections 2333 or 2334) populations and thus subject to MQC eligibility review. Therefore, even if Medicaid beneficiaries' financial circumstances are used in determining the amount of the grant for AFDC or SSI, but eligibility for these beneficiaries would not be established in an AFDC-QC or SSI-QA review, these beneficiaries must be grouped as a case for the MAO populations.

2331 AFDC

- Members of AFDC families who receive cash payments, excluding the following cases:

  1. presumptive eligibility;
  2. death of a payee or applicant;
  3. cases in which a check was not received for the review month even though the name appeared on the payroll from which the sample was drawn (e.g., cancelled checks, withheld checks, returned checks);
  4. AFDC foster care;
  5. emergency assistance;

2332 SSI (1634 States Only)

- Individuals who receive SSI basic payments when SSI determines Medicaid eligibility using SSI criteria.

2333 Medical Assistance Only (1634 States Only)

1. Individuals who received Title II (RSDI) increases in August, 1972, and would otherwise be eligible for cash assistance and were either:

   a. Eligible for cash assistance under Titles I, X, XIV, or XVI in August, 1972;

   b. Would have been eligible for cash assistance in August, 1972, except for institutionalization;

   c. Would have been eligible for cash assistance except for cost of living increases in RSDI benefits paid under Title II.

2. Persons who were eligible for Medicaid in December, 1973, as an "essential spouse" of a cash assistance beneficiary, and who continue to meet December, 1973 criteria.

3. Persons who were eligible for Medicaid in December, 1973, who would have been eligible for cash assistance at that time except for institutionalization, and who continue to meet December, 1973 criteria.

4. Persons who were eligible for Medicaid in December, 1973, as blind or disabled, and who continue to meet the December, 1973 criteria.

5. Persons who would be eligible for SSI payments or a State supplemental payment only, but who have not applied for SSI.

6. SSI recipients who became ineligible for Title XVI cash assistance due solely to RSDI cost-of-living increases after April 1977.

7. Individuals for whom a notice of ineligibility for SSI benefits is received after the tenth of the previous month, and who are eligible for coverage through the end of the following month while the State is in the process of determining continued eligibility for Medicaid.

8. Individuals residing in medical institutions with income sufficient for personal needs while in the institution, but who would be eligible for SSI or a State supplemental payment if not living in the institution.

9. Individuals who would be eligible for any of the SSI categorically needy groups listed above, except for excess income and/or resources and whose income is insufficient to meet medical expenses.

10. Persons in a medical or intermediate care facility who, if they left the facility, would not be beneficiaries of optional State supplementary payments, but while in the facility are eligible under this plan.

11. Members of AFDC families who are eligible for four calendar months of medical service beginning with the month in which such families became ineligible for cash assistance due to increased hours of work or increased earned income.

12. Individuals under 21 who would be eligible for AFDC payments except for age or school attendance requirements.

13. Beneficiaries who are receiving AFDC foster care payments.

14. Individuals who received Title II (RSDI) increases in August, 1972, and would otherwise be eligible for cash assistance, and were either:

    a. Eligible for cash assistance under Title IV-a in August, 1972;

    b. Eligible for cash assistance in August, 1972, except for institutionalization;

    c. Eligible for cash assistance except for cost of living increases in RSDI benefits paid under Title II.

15. Beneficiaries who are receiving AFDC payments under special program provisions which are not covered by the existing AFDC-QC system: AFDC Emergency Assistance. (State review optional).

16. Beneficiaries who are receiving AFDC payments under special program provisions which are not covered by the existing AFDC-QC System: Presumptive Eligibility (State review optional).

17. Individuals who are a caretaker (or a spouse of a caretaker) who are caring for a child under 21 who would be eligible for AFDC except for age or school attendance requirements.

18. Persons who would be eligible for AFDC benefits but have not applied for them.

19. Individuals who would be eligible for AFDC payments if they did not receive child care services through the agency, but had to pay for child care costs from earnings.

20. Persons who would be eligible for AFDC payments except that the State imposes eligibility conditions more stringent than or in addition to those in the Social Security Act.

21. Individuals residing in a medical institution with income sufficient for personal needs while in the institution but who would be eligible for AFDC if they were not living in the institution.

22. Individuals who would be eligible for any of the AFDC categorically needy groups listed above; except that excess income and/or resources is insufficient to meet medical expense.

23. Individuals under 21 who meet the AFDC income and resource limits, but do not meet the definition of dependent child under the AFDC program, or reasonable groups thereof.

24. Individuals who would be eligible for Medicaid as a needy individual under 21 except for excess income and/or resources and whose income is insufficient to meet medical expenses.

25. Individuals whose eligibility for Medicaid has otherwise ceased, but who are still overcoming the effects of their eligibility condition.

26. Beneficiaries who receive mandatory State supplemental payments only, where the State determines Medicaid eligibility and administers the supplemental payment.

27. Individuals who receive State optional supplemental payments only, where the State determines Medicaid eligibility using SSI criteria and administers the supplemental payment.

28. Individuals who receive SSI optional supplemental payments only where the State determines Medicaid eligibility using criteria which are more stringeent than SSI requirements and the State administers the supplemental payment.

    Specifically excluded are individuals who are Indochinese refugees whose Medicaid payments are funded 100% by the Federal Government

2334 Medical Assistance and Others (Medical Assistance Only and State Independent SSI Cases)

- All groups included in Section 2333 above, plus

29. Individuals who receive SSI basic payments where the State determines Medicaid eligibility using SSI criteria. (State Determination/SSI criteria States only).

30. Individuals who receive SSI basic payments where the State determines Medicaid eligibility using criteria more stringent than SSI requirements. (209(b) States only).

2340 SAMPLING FRAMES

Sampling frames for each population must contain at a minimum, all cases in the population of interest. However, additional items not in the population of interest (i.e., listed-in-error cases) may be on the list if it would prove difficult to remove them before sampling from the list. Such listed-in-error cases would be discarded if they were drawn in the sample.

The first time a sampling frame is used, program identifier codes in the sampling frames must be shown to be 98% accurate for the State to use these codes in separating out listed-in-error cases from those in the population of interest. Otherwise, the entire eligibility file or equivalent must be used as the sampling frame, and program participation determined by field investigation as part of the QC review before cases can be dropped as listed-in-error. To show that the codes are accurate, a State must select a sample of 400 cases from the list and determine their program status. If at least 392 cases are correctly coded, the program codes may be used to separate out the listed-in-error cases from the population of interest.

2350 SAMPLE SELECTION

Systematic sampling or simple random sampling procedures may be used in selecting the MQC sample. The required procedures for systematic random sampling are described in detail in Section 2500 of this Sampling Manual. Sample selection may be done at any time after the beginning of the review month. However, care must be taken to insure that all cases with eligibility during the month who are either added to or deleted from the eligibility list during the month are subject to sampling. Cases made eligible in a later month, retroactive to the review month, are not included.

2360 CLAIMS COLLECTION

For each sampled case in the population of interest, claims must be collected for both completed review cases, and dropped cases if Federal re-review subsequently completes the case. Paid claims must be collected for the services received during the review month. Claims to be collected are those which are paid before, during, and for four months following the review month. However, the claims collection procedure must not start until the beginning of the sixth month following the review month. (These claims are needed for the TPL and CPE review. Note that additional claims must be collected for the Claims Cutoff Correction Factor (see Appendix D).

HMO premiums and Medicare buy-ins are considered claims for the month of medical care which they cover.

2400 REQUIREMENTS FOR SAMPLING PLAN DOCUMENTATION

Each State must operate its MQC system under a sampling plan approved by the HCFA Regional Office. Before implementation, each State must submit, to the HCFA Regional Office, specific documentation of the plan it proposes to use for selecting MQC sample. The sampling plan documentation must describe the following proposed sample characteristics:

- The population to be sampled;
- The list(s) from which the sample is selected;
- The sample size;
- The sample selection procedure; and
- The claims collection procedure.

Merely referencing sections of this manual in the sampling plan is not acceptable for complying with the requirements set forth for sampling plan documentation. Detailed description of the sample population, selection lists, sample size, sample selection, and claims collection procedure in the State must be included in the sampling plan documentation.

Upon making any revisions in the sample design, a State must document these revisions in a revised sampling plan and submit it to the HCFA Regional Office for its review and approval before implementation. The same sampling plan must be in effect during the entire six month period.

Basic sampling plans must be submitted to the Regional Office 60 days before the start of a review period. However, caseloads and sampling interval estimates may be submitted at a later time if they are not developed until then. All figures must be submitted at least one week before the start of sampling.

2410 POPULATION TO BE SAMPLED

The sampling plan must describe the specific classifications of Medicaid cases that are included in each of the Medicaid categories for which minimum numbers of review are established. These classifications should conform to the guidelines set forth in Section 2330 of

this Sampling Manual. If for any reason deviations from these guidelines are made, they must be explained in detail in the sampling plan submitted to the HCFA Regional Office. Groups of cases may be identified by the number which identifies them in Section 2330. (e.g. "Section 2333 - 1, 2, 4, 5, 7")

2420 SAMPLE SELECTION LISTS

The sampling plan must describe in detail the lists from which the sample of Medicaid cases is actually selected. It is expected that these lists will be the actual eligibility files. In any case, the sampling plan must explicitly describe the following characteristics of the sample selection lists for each population:

- Source(s)
- All types of cases included in the selection list;
- Accuracy and completeness of sample lists in reference to the population(s) of interest;
- Whether or not the selection list was constructed by combining more than one list;
- The form of the selection list (e.g., computer file, microfilm, hard copy). If different parts of the selection list are in different forms, the form of each part must be specified;
- Frequency of and length of delays in updating the selection lists or their sources;
- Number of items on the lists; proportion of listed-in-error items;
- Methods of deleting unwanted items from the selection lists;
- Structure of the selection lists (e.g., the MQC sample unit or beneficiary). If the selection list is not organized according to case, the method employed in identifying all members of a case so an unbiased random selection of cases can be made must also be specified.

These characteristics of the sample selection list must be specified for each category of Medicaid cases for which a minimum number of reviews has been established (excluding AFDC).

2430 SAMPLE SIZE

The basic sample sizes (i.e., the minimum number of reviews that must be completed) for the six-month review period are specified in Appendix A of this Sampling Manual. (Note again that any changes in sample sizes by AFDC-QC or SSI-QA will change requirements for MQC in these strata). If any deviations from these stated sample sizes are proposed, the reasons for making such deviations and the effects of doing so must be documented in the sampling plan submitted to HCFA. The plan must specify the expected number of cases selected, dropped-LIE, dropped-other, and completed, by stratum, as well as the minimum number of completed reviews shown in Appendix A.

2440 SAMPLE SELECTION PROCEDURES

The procedures used in selecting the sample review cases must be described in detail in the sampling plan. The general procedures for selection must be in compliance with guidelines set forth in Sections 2500 and 2600 of this manual. If more than one selection list is used, the method of selection from each list must be specified. Any stratified sampling techniques proposed (refer to Section 2820 for guidelines on stratification) must be explicitly described. A time schedule for each step in the sampling procedure must be included (by stratum, if it differs by stratum).

Each State must specify whether or not it is integrating reviews with SSI-QA. Note that for the AFDC stratum and the SSI stratum in 1634 States (if the State has elected the SSI-QA option) the only statement needed to describe the sample selection procedure is "The AFDC-QC (or SSI-QA) sample will be used".

2450 CLAIMS COLLECTION PROCEDURES

The sampling plan must document the procedures which are used to collect paid claims for services incurred for a review month sampled case. The documentation must include the identifier (name, number, etc.) used for matching all claims to the case; the timing of this procedure, the method used (computer, manual) and tracking procedures for these claims.

2500 SYSTEMATIC RANDOM SAMPLE SELECTION PROCEDURES

States may elect to use either systematic random sampling or simple random sampling procedures for selecting review cases. Systematic sampling is the preferred method for MQC. It provides a system or pattern of selection of individual cases from the sample selection list (e.g., a file, computer tape, or listing, at equally spaced intervals, with the starting point being determined by random selection. It is important that cases with a similar probability of error are not also placed on equally spaced intervals. Otherwise, a systematic sample will not yield a truly random sample. Rather the pattern of the sample frame must be such that the probability of case errors is unrelated to the sample selection list structure.

Simple random sampling will in most cases be a more difficult method to administer. Each case in the sample selection list must be assigned a unique identifying number. Numbers are then selected at random (usually from a table of random numbers) and cases having the identifying numbers corresponding to the random numbers are included in the sample.

Sections 2510 and 2520 below describe the specific steps involved in systematic sampling. Section 2600 details how these samling procedures are applied in the context of sampling for Medicaid Quality Control.

The procedures outlined below describe the steps that are necessary in selecting a sample from an established sample selection list. These steps may be divided into two parts. The first part (described in Section 2510) presents the steps that must be taken in calculating the sampling interval used in the selection of cases from the sample selection list (generally calculated once every reporting period).

The second part (described in Section 2520) outlines the procedures that are used in the actual selection of cases from the list (performed monthly).

2510 CALCULATION OF THE SAMPLING INTERVAL

The five steps presented below must be undertaken only once,

at the beginning of each six month review period.

Step A - Estimate the Average Monthly Sample Frame Size

The average monthly sample frame size is an estimate of the average number of cases contained on the list which is subject to sampling during each month of the six month review period. The monthly sample frame size may be expected to vary. In estimating the average monthly sample frame size, any known circumstances, such as policy changes, that would appreciably affect the size, should be considered.

Step B - Determine the Number of Required Completed Case Reviews

Appendix A contains a list of the minimum number of completed reviews required by HCFA for each six month review period. If a State wishes, it may increase the number of reviews to be completed.

Step C - Estimate the Average Number of Reviews To Be Completed Monthly

The average number of reviews to be completed monthly is calculated by dividing the number of required completed case reviews for the six month review period (Step B above) by six.

Step D - Estimate the Proportion of Cases Listed in Error

Listed-in-error cases are those cases included in the sample selection list which are not in the population of interest (e.g. AFDC cases included on a list from which Medical Assistance Only cases are to be selected). The proportion of these cases is to be estimated in this step.

Step E - Estimate the Proportion of Cases Dropped for Other Reasons

Some case reviews that will be initiated may not be able to be completed for the following

reasons:

- Moved out of State
- Unwilling to give information
- Unable to locate
- Other

The proportion that such cases are of all reviews that are to be initiated (for the total six month period) is to be estimated in this step.

Step F - Calculate the Sampling Interval

The sampling interval should be calculated using the formula below, where:

W - Average monthly sample frame size (Step A)

X - Expected number of reviews to be completed monthly (Step C)

Y - Proportion of cases dropped for reasons other than listed in error (Step E)

Z - Proportion of cases listed in error (Step D)

Sampling Interval (I) = W x (1-Z) x (1-Y) ÷ X

Unless a correction for undersampling or excessive oversampling is necessary (refer to Section 2700), the same sampling interval must be applied in each month of the six month review period. This sampling interval should always be rounded down to the next lowest integer (i.e., 25.67 becomes 25).

As an example assume that:

- The average monthly sample frame size (W) is 10,000
- The expected number of reviews to be completed monthly (X) is 100
- The proportion of cases dropped for reasons other than listed in error (Y) is 1/100 (or .01)

- The proportion of cases listed in error (Z) is 5/100 (or .05)

Then the sampling interval is 10000 x (.99) x (.95) ÷ 100 = 94.05. Rounded down this becomes 94.

The number of cases actually selected for a review month must exceed the number of sample cases required for 2 reasons:

1. Cases selected not in the population of interest (listed in error).

2. Dropped reviews for reasons other than listed in error.

The actual sample of cases to be reviewed include only the cases selected that are in fact from the population of interest.

2520 SELECTION OF CASES FOR THE REVIEW MONTH

The procedures for selection of cases for the review month consist of three steps. These three steps must be repeated for each month of the review period using the same sampling interval (refer to Section 2510 for sampling interval calculation procedures).

Step G - Make any Necessary Adjustments in the Sampling Interval for Undersampling or Excessive Oversampling

Undersampling (or excessive oversampling) exists when the actual number of completed case reviews is below (or significantly above) the required number. Undersampling must be corrected to achieve minimum sample size. Excessive oversampling may be reduced at State option so that actual sample sizes will be closer to the minimum required sample sizes. Detailed procedures for correction are described in Section 2700. The new sampling interval calculated as part of these procedures is used in selecting sample cases for the review month.

Step H - Select a Random Start

The random start, j, is an integer between 1

and the sampling interval, I. This number is selected randomly (usually using a table of random numbers as in Appendix B).

Step I - Select Sample Cases

The first case selected is the j'th case (random start number) on the sample selection list. Every I'th (sampling interval) entry following the j'th case on the sample selection list is also chosen as part of the monthly sample. Thus, if the random start is 28 and the sampling interval is 94 the 28'th, 122'nd, 216'th, 310'th, etc., entries on the sample selection list are selected for the sample. (Note that only the cases selected must be reviewed in the sample. If case 122 is selected, reviewing case 121 or 123 is not acceptable.) The process of selection continues in this fashion until the end of the list is reached.

2600 PROCEDURES FOR SELECTING THE MEDICAID QUALITY CONTROL SAMPLE

In order to save manpower and expenditures, the MQC sample will be integrated with samples of other quality control programs. For all States, the AFDC-QC results will be used as part of the MQC sample. Furthermore, all States have the option of using SSI-QA review information as the basis for their MQC reviews for SSI recipients. All States must indicate in the sampling plan whether they have elected this option. As with other aspects of the sample design, changes from the original specification in the sampling plan can only be made with Regional Office concurrence.

This section describes the step-by-step methodology used to select cases under either option.

There are three tasks to the selection of the Medicaid Quality Control sample. They are as follows:

- Task 1 - Establish the sample selection list
- Task 2 - Calculate the sampling interval
- Task 3 - Select cases for the MQC sample

Procedures to be followed in Tasks 2 and 3 were explained in Section 2500 of this Sampling Manual. These general procedures are the same for all States, regardless of how Medicaid eligilibity determinations for SSI recipients are made. Nor are procedures for sample selection themselves for Tasks 2 and 3 dependent upon whether or not the State elects to integrate the SSI-QA sample into the MQC sample. (However, additional procedures are necessary). Conversely, the procedures used in carrying out Task 1 in which the sample frame is established will vary substantially, depending upon the method of making Medicaid eligibility determinations for SSI cases and whether or not the sample integration option is chosen.

The following sections describe the procedures for establishing sample frames (Task 1), calculating sampling intervals (Task 2) and selecting the sample (Task 3) for each of the following categories of States:

- Section 2610 - 1634 States:
- Section 2620 - 209 (b) States; and
- Section 2630 - State Determination/SSI Criteria States

Each of these sections is divided into two subsections, the first of which describes the set of procedures to be used if the SSI-QA sample integration option is chosen. The second subsection describes the set of procedures to be used if the

SSI-QA sample integration option is not chosen. The SSI-QA integration option involves the use of SSI-QA sample cases and case review information as a portion of the overall MQC sample. If a State feels that savings may be achieved by using the integration, this option is recommended.

2610 1634 STATES

Three independent samples representative of three unique populations must be selected in 1634 States. The populations from which the samples are to be selected are the following:

- AFDC:
- SSI; and
- Medical Assistance Only

The categories of beneficiaries included in these three populations are described, respectively, in Sections 2331, 2332, and 2333 of this manual.

Samples from each of these three populations can be obtained as described in the following sections: Section 2611 for 1634 States choosing the SSI-QA sample integration option and Section 2612 for 1634 States not choosing to integrate the SSI-QA sample into the MQC sample.

2611 SSI-QA Sample Integration Option (Use of AFDC-QC and SSI-QA Reviews)

A 1634 State may choose to use the SSI-QA sample as the portion of the MQC sample that represents Medicaid cases that also receive SSI payments. It should be noted that SSI-QA sample integration has no impact on the methods of selection of the AFDC and Medical Assistance Only portions of the sample. All SSI-QA sample cases must be used in the SSI portion of the sample.

The procedures for selecting SSI, AFDC, and Medical Assistance Only portions of the MQC sample in 1634 States electing to use the SSI-QA sample integration option are described below. Selection of each of the three portions of the sample are independent processes. This process is pictured in Exhibit 2600-1, p.29.

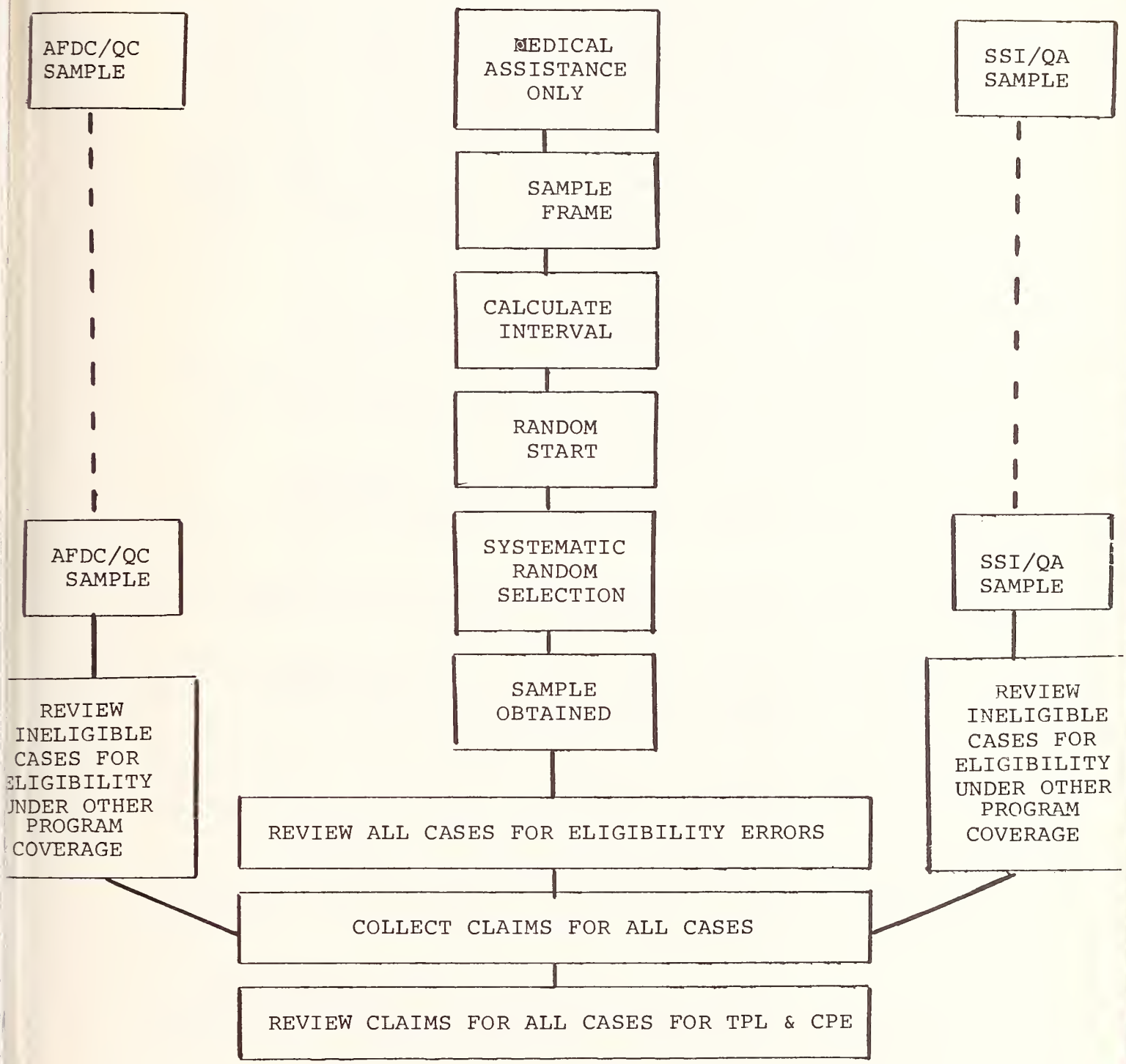
1. AFDC

   The AFDC portion of the MQC sample is the sample of AFDC cases selected by the State agency for AFDC-QC review. This sample is used in its entirety in the MQC sample. Because the sample has already been selected by the AFDC agency, no further sampling procedures are required.

EXHIBIT 2600 - 1

1634 CONTRACT STATES

FULL INTEGRATION


AFDC/QC SAMPLE
MEDICAL ASSISTANCE ONLY
SSI/QA SAMPLE
SAMPLE FRAME
CALCULATE INTERVAL
RANDOM START
SYSTEMATIC RANDOM SELECTION
SAMPLE OBTAINED
AFDC/QC SAMPLE
SSI/QA SAMPLE
REVIEW INELIGIBLE CASES FOR ELIGIBILITY UNDER OTHER PROGRAM COVERAGE
REVIEW INELIGIBLE CASES FOR ELIGIBILITY UNDER OTHER PROGRAM COVERAGE
REVIEW ALL CASES FOR ELIGIBILITY ERRORS
COLLECT CLAIMS FOR ALL CASES
REVIEW CLAIMS FOR ALL CASES FOR TPL & CPE

2. Medical Assistance Only

Task 1 - Establish the Sample Selection List

The sample selection list should include just Medical Assistance Only cases from the Medicaid eligibility file (see Section 2333). Other cases (e.g., AFDC or SSI cases) may be included in the sample selection list if it is difficult to establish a list that is uniquely Medical Assistance Only cases. At a minimum, however, the list must include all Medical Assistance Only cases in the State. Any cases other than Medical Assistance Only cases that are included in the sample selection list are considered to be cases that are "listed in error."

Task 2 - Calculate the Sampling Interval

This task is to be done once at the beginning of the six month period. This interval is to be used throughout the period. Details of these steps are found in Section 2510.

Step A - Estimate the Average Monthly Sample Frame Size (list subject to sampling) = W

Step B - Determine the Number of Required Completed Medical Assistance Only case reviews = N (from Appendix A)

Step C - Estimate the Average Number of Medical Assistance Only Reviews to be Completed Monthly (N ÷ 6) = X

Step D - Estimate the Proportion of Cases Listed in Error = Z
(Estimate the proportion of cases in the sampling frame which are not Medical Assistance Only cases).

Step E - Estimate the Proportion of Cases Dropped for Other Reasons = Y

Step F - Calculate the Sampling Interval. The sampling interval, I, equals W x (1-Z) x (1-Y) ÷ X, rounded down to the next lowest integer.

Task 3 - Select the Medical Assistance Only Sample

These procedures are to be followed each month of the sample selection period. Details of these steps are found in Section 2520.

Step G - Make Any Adjustments in the Sampling Interval for Undersampling or Excessive Oversampling. (Details in Section 2700).

Step H - Select a Random Start (between 1 and "I") = j

Step I - Select Medical Assistance Only Sample Cases (select the first case according to the random number j and every Ith case thereafter).

3. SSI

The SSI portion of the MQC sample is the sample of cases selected by SSA for SSI-QA review. This sample is used in its entirety in the MQC sample. Because the sample has already been selected by the SSI agency, no further sampling procedures are required. If the SSI-QA sample is sub-stratified, it must be noted for use during data analysis and reporting of Federal tables to HCFA (see Section 2731). The sub-strata (if applicable) will be identified as FFL or Non-FFL. The sub-stratum will be identified in Item 11 of the Medical Services and Health Benefits Worksheet Supplement for SSI-QA cases. Codes 1, 3 and 5 in Item 11 indicate FFL, while codes 2,4 and 6 indicate Non-FFL.

2612 AFDC-QC Sample Integration Only (No SSI-QA Reviews Used)

A State may elect not to integrate the SSI-QA sample into the MQC sample. In this situation, it is necessary to select an independent sample from an established sample selection list for the SSI portion of the sample. The procedures for selecting the Medical Assistance Only and AFDC portions of the sample are the same regardless of whether or not the State integrates the SSI-QA sample into the MQC sample.

The procedures for selecting the AFDC, Medical Assistance Only, and SSI portions of the MQC sample in a 1634 State not electing the SSI-QA sample integration option are described below. This process is pictured in Exhibit 2600-2, p. 32.

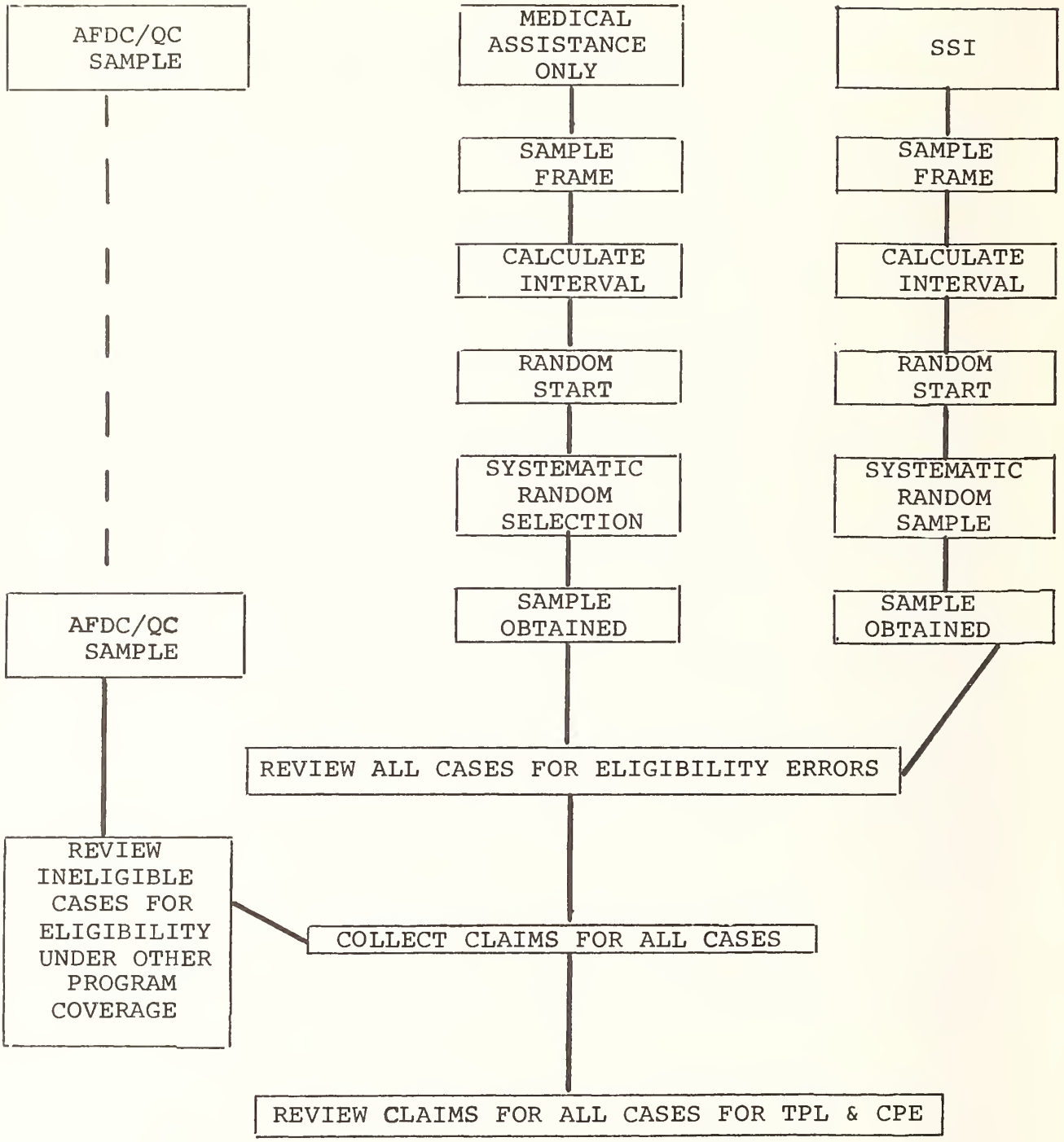
1. AFDC

The AFDC portion of the MQC sample is the sample of AFDC cases selected by the State Agency for its AFDC-QC review. This sample is used in its entirety in the MQC sample. Because the sample

EXHIBIT 2600-2

1634 CONTRACT STATES

PARTIAL INTEGRATION (AFDC/QC ONLY)



has already been selected by the State agency, no further sampling procedures are required.

2. Medical Assistance Only

Task 1 - Establish the Sample Selection List

The sample selection list should include just Medical Assistance Only cases from the Medicaid eligibility file. (See Section 2333). Other cases (e.g., AFDC or SSI cases) may be included in the sample selection list if it would be difficult to establish a list that is uniquely Medical Assistance Only cases. At a minimum, however, the list must include all Medical Assistance Only cases in the State. Any cases other than Medical Assistance Only Cases that are included in the sample selection list will be considered to be cases that are "listed in error."

Task 2 - Calculate the Sampling Interval

This task will be done once at the beginning of the six-month period. Details of these steps are found in Section 2510.

Step A - Estimate the Average Monthly Sample Frame Size (list subject to sampling) = W

Step B - Determine the Number of Required Completed Medical Assistance Only Case Reviews = N (from Appendix A)

Step C - Estimate the Average Number of Reviews to be Completed Monthly (N ÷ 6) = X

Step D - Estimate the Proportion of Cases Listed in Error = Z
(Estimate the proportion of cases in the sampling frame which are not Medical Assistance Only Cases).

Step E - Estimate the Proportion of Cases Dropped for Other Reasons = Y

Step F - Calculate the Sampling Interval = I

The sampling interval, I, equals W x (1-Z) x (1-Y) ÷ X, rounded down to the next lowest integer.

Task 3 - Select the Medical Assistance Only Sample

These procedures are to be followed each month of the sample selection period. Details of these steps are found in Section 2520.

Step G - Make Any Adjustments in the Sampling Interval for Undersampling or Excessive Oversampling. (Details in Section 2700).

Step H - Select a Random Start (between 1 and "I") = j

Step I - Select Medical Assistance Only Sample Cases (select first case according to the random number j, and every Ith case thereafter).

3. SSI

Task 1 - Establish the Sample Selection List

The sample selection list should include just SSI cases, preferably from the Medicaid eligibility file for SSI cases. Other cases (e.g., AFDC or Medical Assistance Only cases) may be included in the sample selection list if it would be difficult to establish a list that is uniquely SSI cases. At a minimum, however, the list must include all SSI cases in the State. Any cases other than SSI cases that are included in the sample selection list will be considered to be cases that are "listed in error."

Task 2 - Calculate the Sampling Interval

This task is to be done once at the beginning of the six month period. Details of these steps are found in Section 2510.

Step A - Estimate the Average Monthly Sample Frame Size (list subject to sampling) = W

Step B - Determine the Number of Required Completed SSI Case Reviews = N (from Appendix A)

Step C - Estimate the Average Number of SSI Reviews to be Completed Monthly (N ÷ 6) = X

Step D - Estimate the Proportion of Cases Listed in Error = Z

(Estimate the proportion of cases in the sampling frame which are not SSI cases).

Step E - Estimate the Proportion of Cases Dropped for Other Reasons = Y

Step F - Calculate the Sampling Interval = I
The sampling interval, I, equals
W x (1-Z) x (1-Y) ÷ X, rounded down to the next lowest integer.

Task 3 - Select the SSI Sample

This procedure is to be followed each month of the sample selection period. Details of these steps are found in Section 2520.

Step G - Make Any Adjustments in the Sampling Interval for Undersampling or Excessive Oversampling. (Details in Section 2700).

Step H - Select a Random Start (between 1 and "I") = j

Step I - Select SSI Sample Cases (select first case according to the random number j and every Ith case thereafter).

2620 209(b)/1902(f) States

In 209 (b) States the Medicaid population is divided into two categories: 1) AFDC; and 2) Medical Assistance and Others. The AFDC portion of the MQC sample is taken from that population of Medicaid cases which also receives AFDC payments. The Medical Assistance and Other population includes all SSI and Medical Assistance Only Medicaid cases. The Medical Assistance Only and SSI cases are selected from a sample selection list that includes both categories of Medicaid cases.

For 209(b) States wishing to integrate the SSI-QA sample into the MQC sample, cases from the SSI-QA sample may be substituted for SSI cases selected from the Medical Assistance and Other sample selection list. States not choosing to integrate the SSI-QA sample into the MQC sample must use the SSI cases selected from the Medical Assistance and Other sample selection list as the SSI portion of the MQC sample.

The specific sample selection procedures for 209(b) States choosing to integrate the SSI-QA sample into the MQC sample are described in Section 2621. The procedures for 209(b) States not

electing the sample integration option are presented in Section 2622.

Special note should be taken of the fact that in 209(b) States not all SSI recipients are eligible for Medicaid benefits. Thus, in selecting the SSI portion of the sample, it is important to select for the MQC sample only those SSI cases that also have been determined to be eligible for Medicaid benefits (called Medicaid-SSI cases).

2621 SSI-QA Sample Integration Option (Use of AFDC-QC and SSI-QA Reviews)

The procedures for selecting the AFDC and Medical Assistance and Other (see Section 2334) cases are presented below. Selection of AFDC cases for the MQC sample is independent of the selection of other categories of Medicaid cases. Selection of Medical Assistance Only and SSI cases are made from the same sample selection list. For as many cases as is possible, SSI cases from the SSI-QA sample which are also Medicaid eligible cases are substituted for the Medicaid-SSI cases selected from the Medical Assistance and Other sample list. (This process is pictured in Exhibit 2600-3, P. 37 .) In order to determine the number of Medicaid-SSI cases in the SSI-QA sample, the sample must be cross-referenced with the Medicaid eligibility file for the month. Those cases in which there is a match are Medicaid-SSI cases, while cases in which there is no match are listed-in-error for MQC purposes.

1. AFDC

   The AFDC portion of the MQC sample is the sample of AFDC cases selected by the State Agency for AFDC-QC review. This sample is used in its entirety in the MQC sample. Because the sample has already been selected by the State agency, no further sampling procedures are required.

2. Medical Assistance Only

   Task 1 - Establish the Sample Selection List

   The sample selection list should include just Medical Assistance and Other cases (see Section 2334). This list should be from the Medicaid eligibility file. Other cases (e.g., AFDC or SSI cases not determined eligible for Medicaid

EXHIBIT 2600-3

209(b)/1902(f) STATES (OR STATE DETERMINATION - SSI CRITERIA STATES)

FULL INTEGRATION

AFD-QC SAMPLE
AFDC-QC SAMPLE
REVIEW INELIGIBLE CASES FOR ELIGIBILITY UNDER OTHER PROGRAM COVERAGE
MEDICAL ASSISTANCE ONLY CASES
REVIEW ALL CASES FOR ELIGIBILITY ERRORS
MEDICAL ASSISTANCE AND OTHER
SAMPLE FRAME
CALCULATE INTERVAL
RANDOM START
SYSTEMATIC RANDOM SELECTION
SAMPLE OBTAINED
SEPARATE MEDICAL ASSISTANCE ONLY FROM MEDICAID SSI CASES
MEDICAID SSI CASES "S"
SSI-QA SAMPLE("Q")
IF MEDICAID SSI > SSI-QA
USE SSI-QA SAMPLE ("Q")
TAKE (S-Q) NUMBER OF CASES
CALCULATE INTERVAL OF (S-Q) CASES APPLIED TO "S" CASES
RANDOM START
SYSTEMATIC SELECTION
SAMPLE OBTAINED
IF MEDICAID SSI =SSI-QA
USE SSI-QA SAMPLE ("Q")
IF MEDICAID SSI < SSI-QA
CALCULATE INTERVAL "S" CASES APPLIED TO "Q" CASES
RANDOM START
SYSTEMATIC SELECTION
SAMPLE OBTAINED
REVIEW Q CASES:209B-ALL FOR ELIGIBILITY ERRORS.SSI CRIT.-INELIGIBLE FOR ELIGIBILITY UNDER OTHER PROGRAM COVERAGE
REVIEW S CASES: ALL FOR ELIGIBILITY ERRORS
COLLECT CLAIMS FOR ALL CASES
REVIEW CLAIMS FOR ALL CASES FOR TPL & CPE

benefits) may be included in the sample selection list if it would be difficult to establish a list that is uniquely Medical Assistance and Other cases. At a minimum, however, the list must include all Medical Assistance and Other cases. Any other cases that are included in the sample selection list are considered to be cases that are "listed in error".

Task 2 - Calculate the Sampling Interval

This task will be done once at the beginning of the six month period. Details of these steps are found in Section 2510.

Step A - Estimate the Average Monthly Sample Frame Size (list subject to sampling) = W

Step B - Determine the Number of Required Medical Assistance and Other Case Reviews = N (from Appendix A)

Step C - Estimate the Average Number of Medical Assistance and Other Case Reviews to be Completed Monthly (N ÷ 6) = X

Step D - Estimate the Proportion of Cases Listed in Error = Z
(Estimate the proportion of cases in the sampling frame which are not Medical Assistance and Other.)

Step E - Estimate the Proportion of Cases Dropped for Other Reasons = Y

Step F - Calculate the Sampling Interval = I
The sampling interval, I, equals W x (1-Z) x (1-Y) ÷ X, rounded down to the next lowest integer.

Task 3 - Select the Medical Assistance and Other Sample

These procedures are to be followed each month of the sample selection period. Details of these steps are found in Section 2520.

Step G - Make Any Adjustments in the Sampling Interval for Undersampling or Excessive Oversampling. (Details in Chapter 2700).

Step H - Select a Random Start (between 1 and "I") = j

Step I - Select Medical Assistance and Other sample cases (select first case according to the random number j and every Ith case thereafter).

The Medical Assistance Only cases that have been selected become the Medical Assistance Only portion of the MQC sample. The SSI cases that have been selected as part of this process are used in the selection of the SSI portion of the MQC sample and should be retained for that purpose. Procedures for selecting SSI cases for the MQC sample follow below.

3. SSI

The number of Medicaid-SSI cases which were selected as part of the Medical Assistance and Other group will be the number of Medicaid-SSI cases included in the sample. As many SSI-QA cases as possible will be substituted for those cases, to facilitate review procedures.

Step 1 - Determine the number of SSI cases eligible for Medicaid which were selected in the Medical Assistance and Other sample for the month. Call these the "S" cases. Let the number of such cases = S

Step 2 - Determine the number of SSI-QA sample cases for the month which were also determined eligible for Medicaid. Call these the "Q" cases. Let the number of such cases = Q

Step 3 - If Q = S, replace all S cases with the Q cases.

If S is greater than Q, select a sample of size (S-Q) from the S cases, keep them and replace the remaining S cases with the Q cases from the SSI-QA sample. (See Sections 2510 and 2520, Steps H and I for more specific sample selection instructions.)

If Q is greater than S, discard the S cases and select a random sample of size S from the Q cases. Use that sample as the Medicaid-SSI portion of the MQC sample. (See Sections 2510 and 2520, Steps H and I for more specific sample se-selection instructions.)

As an example assume that there are 100 Medicaid cases in the SSI-QA sample (Q=100) and that 125 SSI cases were selected in the Medical Assistance and Other portion of the MQC sample. Then use the entire Medicaid portion of the SSI-QA sample for the MQC sample and randomly select an additional 25 SSI cases from the Medical Assistance and Other portion of the MQC sample to add to those 100 cases.

It is important that the source of the SSI cases be identifiable for each Medicaid-SSI case chosen in this way for the MQC sample. This is necessary since a different eligibility review process will be applied depending upon whether the source of the case was the SSI-QA sample or the sample of Medicaid-SSI cases selected as part of the selection process for Medical Assistance and Other cases.

If the SSI-QA sample is sub-stratified by Federal Fiscal Liability (FFL) and Non-Federal Fiscal Liability (Non-FFL) (See Appendix A), the above procedure be followed for each SSI sub-stratum. The sub-stratum will be identified in Item 11 of the Medical Services and Health Benefits Worksheet Supplement for SSI-QA cases. Codes 1,3, and 5 in Item 11 indicate FFL, while Codes 2,4, and 6 indicate Non-FFL. That is, the SSI cases selected in the Medical Assistance and Others sample must be separated into the sub-stratum in which they would fall in the SSI-QA sample (FFL, Non-FFL) according to their program status.

If the case receives a mandatory and/or optional State supplement administered by SSI, then the case is an FFL case, otherwise it is a Non-FFL case. This can be determined for all Medicaid-SSI cases through use of the SDX tape if the State does not indicate the sub-stratum on its eligibility file.

SSI-QA cases will be identified by which sub-stratum they fall into. The Q = S, S > Q, Q > S procedures detailed above must be performed separately for each SSI sub-stratum of cases. If these procedures are not followed, disproportional sampling results in the necessity to weight data for the Medical Assistance and Other stratum, in accordance with Section 2731.

2622 AFDC-QC Sample Integration Only (No SSI-QA Reviews Used

The sample selection procedures for 209(b) States not choosing the SSI-QA sample integration option are presented below. Selection of AFDC cases for the MQC sample is made independently of the selection of other categories of Medicaid cases. Selection of Medical Assistance Only and SSI cases are made from the same sample selection list. This process is pictured in Exhibit 2600-4, P. 42.

1. AFDC

   The AFDC portion of the MQC sample is the sample of AFDC cases selected for AFDC-QC review. This sample is used in its entirety in the MQC sample. Because the sample has already been selected by the State agency, no further sampling procedures are required.

2. Medical Assistance Only

   Task 1 - Establish the Sample Selection List

   The sample selection list should include just Medical Assistance and Other cases. (see Section 2334). This list should be from the Medicaid eligibility file. Other cases (e.g., AFDC or SSI cases not determined eligible for Medicaid benefits) may be included in the sample selection list if it would be difficult to establish a list that is uniquely Medical Assistance and Other cases. At a minimum, however, the list must include all Medical Assistance and Other cases. Any other cases that are included in the sample selection list must be considered to be cases that are "listed in error."

   Task 2 - Calculate the Sampling Interval

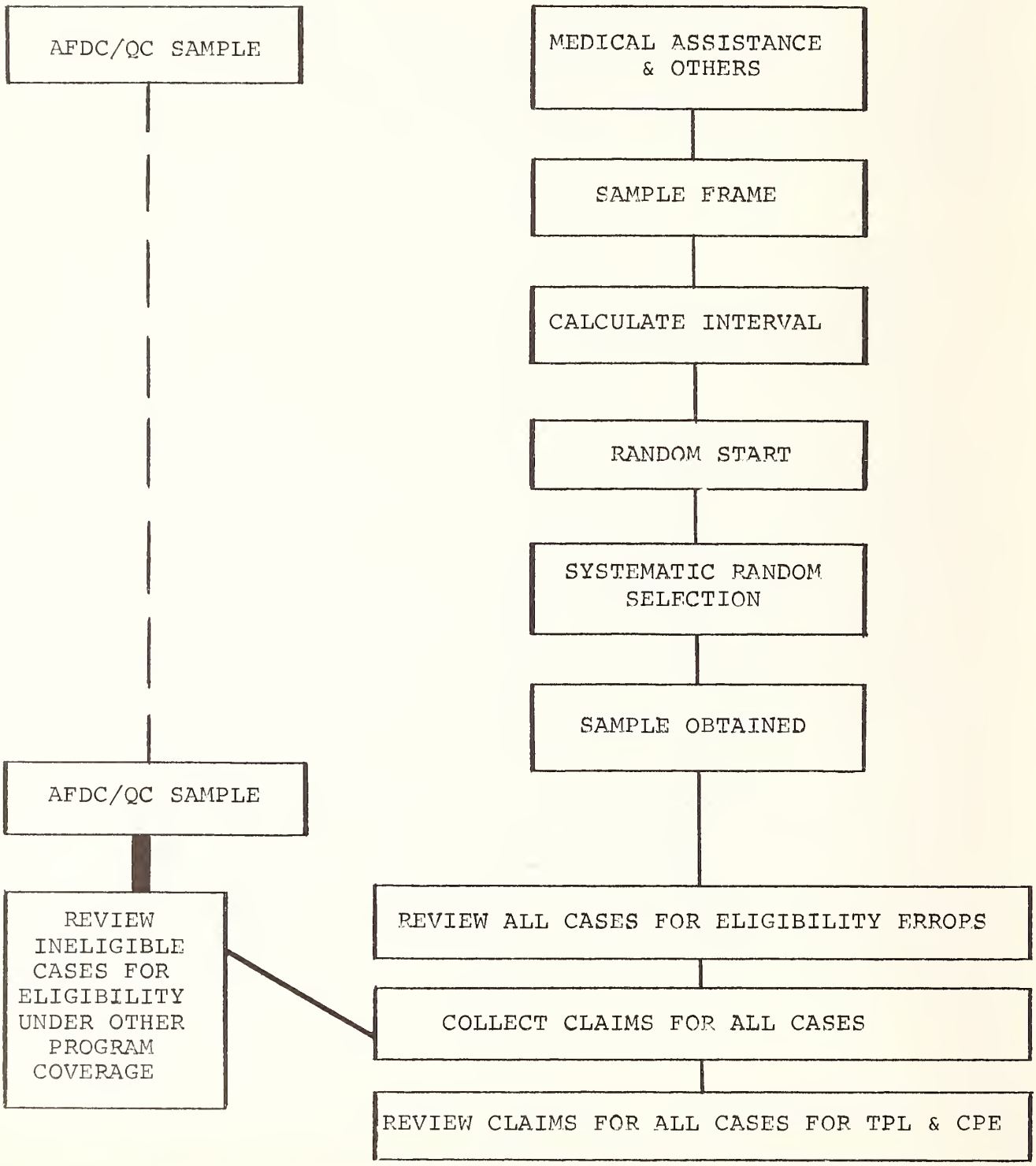
   This task will be done once at the beginning of

EXHIBIT 2600-4

209(b)/1902(f) STATES

(OR STATE DETERMINATION - SSI CRITERIA STATES)

PARTIAL INTEGRATION (AFDC-QC ONLY)


AFDC/QC SAMPLE
MEDICAL ASSISTANCE & OTHERS
SAMPLE FRAME
CALCULATE INTERVAL
RANDOM START
SYSTEMATIC RANDOM SELECTION
SAMPLE OBTAINED
AFDC/QC SAMPLE
REVIEW INELIGIBLE CASES FOR ELIGIBILITY UNDER OTHER PROGRAM COVERAGE
REVIEW ALL CASES FOR ELIGIBILITY ERROPS
COLLECT CLAIMS FOR ALL CASES
REVIEW CLAIMS FOR ALL CASES FOR TPL & CPE

the six month period. Details of these steps are found in Section 2510.

Step A - Estimate the Average Monthly Sample Frame Size (list subject to sampling) = W

Step B - Determine the Number of Required Completed Medical Assistance and Other Case Reviews = N (from Appendix A)

Step C - Estimate the Average Number of Medical Assistance and Other Case Reviews to be Completed Monthly (N ÷ 6) = X

Step D - Estimate the Proportion of Cases Listed in Error = Z
(Estimate the proportion of cases in the sampling frame which are not Medical Assistance and Other.)

Step E - Estimate the Proportion of Cases Dropped for Other Reasons = Y

Step F - Calculate the Sampling Interval = I. The sampling interval, I, equals W x (1-Z) x (1-Y) ÷ X, rounded down to the next lowest integer.

Task 3 - Select the Medical Assistance and Other Sample

These procedures are to be followed each month of the sample selection period. Details of these steps are found in Section 2520.

Step G - Make Any Adjustments in the Sampling Interval for Undersampling or Excessive Oversampling. (Details in Chapter 2700).

Step H - Select a Random Start (between 1 and "I") = j

Step I - Select Medical Assistance and Other Sample Cases (select the first case according to the random number j and every Ith case thereafter).

The Medical Assistance Only cases that have been selected as part of this process become the Medical Assistance Only portion of the MQC sample.

3. SSI

The SSI case that also receive Medicaid benefits and have been selected as part of the process of selecting Medical Assistance Only cases above become the Medicaid-SSI portion of the MQC sample.

2630 State Determination/SSI Criteria States

In the State Determination/SSI Criteria States the Medicaid population is divided into two categories: 1) AFDC; and 2) Medical Assistance and Others. The AFDC portion of the MQC sample is taken from that population of Medicaid cases which also receives AFDC payments. The Medical Assistance and Other population includes all SSI and Medical Assistance Only Medicaid cases. The Medical Assistance Only and SSI cases are selected from a sample selection list that includes both categories of Medicaid cases.

For State Determination/SSI Criteria States wishing to integrate the SSI-QA sample into the MQC sample, cases from the SSI-QA sample may be substituted for SSI cases selected from the Medical Assistance and Other sample selection list. States not choosing to integrate the SSI-QA sample into the MQC sample must use the SSI cases selected from the Medical Assistance and Other sample selection list as the SSI portion of the MQC sample.

The specific sample selection procedures for State/Determination/SSI Criteria States choosing to integrate the SSI-QA sample into the MQC sample are described in Section 2631. The procedures State Determination/SSI Criteria States not electing the sample integration option are presented in Section 2632.

Special note should be taken of the fact that in State Determination/SSI Criteria States not all SSI recipients may have been determined eligible for Medicaid because they may not have applied for benefits. Thus, in selecting the SSI portion of the sample, it is important to select for the MQC sample only those SSI cases that also have been determined to be eligible for Medicaid benefits (called Medicaid-SSI cases.)

2631 SSI-QA Sample Integration Option (Use of AFDC-QC and SSI-QA Reviews)

The procedures for selecting the AFDC and Medical Assistance and Other (see Section 2334) cases are presented below. Selection

of AFDC cases for the MQC sample is independent of the selection of other categories of Medicaid cases. Selection of Medical Assistance Only and SSI cases are made from the same sample selection list. For as many cases as is possible, SSI cases from the SSI-QA sample which are also Medicaid eligible cases are substituted for the Medicaid-SSI cases selected from the Medical Assistance and Other sample list. This process is pictured in Exhibit 2600-3, P. 37.

In order to determine the number of Medicaid/SSI cases in the SSI-QA sample, the sample must be cross-referenced with the Medicaid eligibility file for the month. Those cases in which there is a match are Medicaid-SSI cases, while cases in which there is no match are listed-in-error for MQC purposes.

1. AFDC

   The AFDC portion of the MQC sample is the sample of AFDC cases selected by the State Agency for AFDC-QC review. This sample is used in its entirety in the MQC sample. Because the sample has already been selected by the State agency, no further sampling procedures are required.

2. Medical Assistance Only

   Task 1 - Establish the Sample Selection List

   The sample selection list should include just Medical Assistance and Other cases (see Section 2334). This list should be from the Medicaid eligibility file. Other cases (e.g., AFDC or SSI cases not determined eligible for Medicaid benefits) may be included in the sample selection list if it would be difficult to establish a list that is uniquely Medical Assistance and Other cases. At a minimum, however, the list must include all Medical Assistance and Other cases. Any other cases that are included in the sample selection list are considered to be cases that are "listed in error."

   Task 2 - Calculate the Sampling Interval

   This task will be done once at the beginning of

the six month period. Details of these steps are found in Section 2510.

Step A - Estimate the Average Monthly Sample Frame Size - (list subject to sampling) = W

Step B - Determine the Number of Required Medical Assistance and Other Case Reviews = N (from Appendix A)

Step C - Estimate the Average Number of Medical Assistance and Other Case Reviews to be Completed Monthly (N ÷ 6) = X

Step D - Estimate the Proportion of Cases Listed in Error = Z
(Estimate the proportion of cases in the sampling frame which are not Medical Assistance and Other.)

Step E - Estimate the Proportion of Cases Dropped for Other Reasons = Y

Step F - Calculate the Sampling Interval = I
The sampling interval, I, equals
W x (1-Z) x (1-Y) ÷ X, rounded down to the next lowest integer.

Task 3 - Select the Medical Assistance and Other Sample

These procedures are to be followed each month of the sample selection period. Details of these steps are found in Section 2520.

Step G - Make Any Adjustments in the Sampling Interval for Undersampling or Excessive Oversampling. (Details in Chapter 2700).

Step H - Select a Random Start (between 1 and "I") = j

Step I - Select Medical Assistance and Other sample cases (select first case according to the random number j and every Ith case thereafter).

The Medical Assistance Only cases that have been selected be-

come the Medical Assistance Only portion of the MQC sample. The SSI cases that have been selected as part of this process are used in the selection of the SSI portion of the MQC sample and should be retained for that purpose. Procedures for selecting SSI cases for the MQC sample follow below.

3. SSI

The number of Medicaid-SSI cases which were selected as part of the Medical Assistance and Other group will be the number of Medicaid-SSI cases included in the sample. As many SSI-QA cases as possible will be substituted for those cases, to facilitate review procedures.

Step 1 - Determine the number of SSI cases eligible for Medicaid which were selected in the Medical Assistance and Other sample of the month. Call these the "S" cases. Let the number of such cases = S

Step 2 - Determine the number of SSI-QA sample cases for the month which were also determined eligible for Medicaid. Call these the Q cases. Let the number of such cases = Q

Step 3 - If Q = S, replace all S cases with the Q cases.

If S is greater than Q, select a sample of size (S-Q) from the S cases, keep them and replace the remaining S cases with the Q cases from the SSI-QA sample. (See Sections 2510 and 2520, Steps H and I for more specific sample selection instructions.).

If Q is greater than S, discard the S cases and and select a random sample of size S from the Q cases. Use that sample as the Medicaid-SSI portion of the MQC sample. (See Sections 2510 and 2520, Steps H and I for more specific instructions.)

As an example assume that there are 100 Medicaid cases in the SSI-QA sample (Q=100) and that 125 SSI cases

were selected in the Medical Assistance and Other portion of the MQC sample. Then use the entire Medicaid portion of the SSI-QA sample for the MQC sample and randomly select an additional 25 SSI cases from the Medical Assistance and Other portion of the MQC sample to add to those 100 cases.

It is important that the source of the SSI cases be identifiable for each Medicaid-SSI case chosen in this way for the MQC sample. This is necessary since a different eligibility review process will be applied depending upon whether the source of the case was the SSI-QA sample or the sample of Medicaid-SSI cases selected as part of the selection process for Medical Assistance and Other cases.

If the SSI-QA sample is sub-stratified by Federal Fiscal Liability (FFL) and Non-Federal Fiscal Liability (Non-FFL) (See Appendix A), the above procedure must be followed in each SSI sub-stratum. The sub-stratum will be identified in Item 11 of the Medical Services and Health Benefits Worksheet Supplement for SSI-QA cases. Codes 1,3, and 5 in Item 11 indicate FFL, while codes 2,4, and 6 indicate Non-FFL. That is, the SSI cases selected in the Medical Assistance and Others sample must be separated into the sub-stratum in which they would fall in the SSI-QA sample (FFL, Non-FFL) according to their program status.

If the case receives a mandatory and/or optional State supplement administered by SSI, then the case is an FFL case, otherwise it is a non-FFL case. This can be determined for Medicaid-SSI cases through use of the SDX tape if the State does not indicate the sub-stratum on its eligibility file.

SSI-QA cases will be identified by which sub-stratum they fall into. The $Q = S$, $S > Q$, $Q > S$ procedures detailed above must be performed separately for each SSI sub-stratum of cases. If those procedures are not followed, disproportional sampling results in the necessity to weight data for the Medical Assistance and Other stratum in accordance with Section 2731.

2632 AFDC-QC Sample Integration Only (No SSI-QA Reviews Used

The sample selection procedures for State Determination/SSI Criteria States not choosing the SSI-QA sample integration option are presented below. Selection of AFDC cases for the MQC sample is made independently of the selection of other categories of Medicaid cases. Selection of Medical Assistance Only and SSI cases are made from the same sample selection list. This process is pictured in Exhibit 2600-4, P. 42 .

1. AFDC

The AFDC portion of the MQC sample is the sample of AFDC cases selected for AFDC-QC review. This sample is used in its entirety in the MQC sample. Because the sample has already been selected by the State agency, no further sampling procedures are required.

2. Medical Assistance Only

Task 1 - Establish the Sample Selection List

The sample selection list should include just Medical Assistance and Other cases (See Section 2334). This list should be from the Medicaid eligibility file. Other cases (e.g., AFDC or SSI cases not determined eligible for Medicaid benefits) may be included in the sample selection list if it would be difficult to establish a list that is uniquely Medical Assistance and Other cases. At a minimum, however, the list must include all Medical Assistance and Other cases. Any other cases that are included in the sample selection list must be considered to be cases that are "listed in error."

Task 2 - Calculate the Sampling Interval

This task will be done once at the beginning of the six month period. Details of these steps are found in Section 2510.

Step A - Estimate the Average Monthly Frame Size (list subject to sampling) = W

Step B - Determine the Number of Required Completed Medical Assistance and Other Case Reviews = N (from Appendix A)

Step C - Estimate the Average Number of Medical Assistance and Other Case Reviews to be Completed Monthly (N ÷ 6) = X

Step D - Estimate the Proportion of Cases Listed in Error = Z
(Estimate the proportion of cases in the sampling frame which are not Medical Assistance and Other Cases.)

Step E - Estimate the Proportion of Cases Dropped for Other Reasons = Y

Step F - Calculate the Sampling Interval = I. The sampling interval, I, equals W x (1-Z) x (1-Y) ÷ X, rounded down to the next lowest integer.

Task 3 - Select The Medical Assistance and Other Sample

These procedures are to be followed each month of the sample selection period. Details of these steps are found in Section 2520.

Step G - Make Any Adjustments in the Sampling Interval for Undersampling or Excessive Oversampling. (Details in Chapter 2700).

Step H - Select a Random Start (between 1 and "I") = j

Step I - Select Medical Assistance and Other Sample Cases (select the first case according to the random number j and every Ith case thereafter).

The Medical Assistance Only cases that have been selected as part of this process become the Medical Assistance Only portion of the MQC sample.

3. SSI

The SSI cases that also receive Medicaid benefits

that have been selected as part of the process of selecting Medical Assistance Only cases above become the Medicaid-SSI portion of the MQC sample.

2700 PROCEDURES FOR CORRECTING THE MONTHLY SAMPLE FOR EXCESSIVE OVERSAMPLING AND UNDERSAMPLING

This section deals with correction of the sample for either undersampling or excessive oversampling. It should be noted that undersampling (completion of fewer cases than required) must be corrected, using the procedures outlined here. Correcting for oversampling is a State option. The preferred method for such corrections, outlined below in Section 2710, will yield unbiased estimates. An alternate method which is presented in Section 2730, while acceptable, is not generally recommended because it requires that complex weighting procedures be carried out in analyzing the data and reporting the data to HCFA.

2710 CORRECTING FOR EXCESSIVE OVERSAMPLING

Oversampling is a normal part of the sampling operation which compensates for unidentifiable but anticipated "not reviewed" cases. Under certain circumstances, however, the State may find that it has oversampled more than necessary. This oversampling could be due to such factors as a larger allowance made for anticipated "not reviewed" cases than actually found, or to an underestimated caseload size for the reporting period resulting in the use of a smaller sampling interval than necessary.

If a State wishes to reduce this sample, the recommended method to correct for oversampling, in order to produce unbiased estimates without resorting to complex weighting procedures, is as follows:

1. Using the methods described in Section 2510 recompute the correct sampling interval for the reporting period using revised estimates of the sample frame size, and/or the fraction of reviews to be dropped for all reasons;

For each month in which sample cases have already been selected:

2. Compute a revised estimate of the number of sample cases which should have been selected in the preceding months of the sampling period as follows:

Revised estimate of the number of sample cases for the month	=	Monthly Sample Selection List Size ÷ Revised Sampling Interval

3. Subtract the number of cases obtained in Step 2 from the number of sample cases that have already been selected. This is the number of cases to be eliminated (regardless of whether the review has been initiated or not).

4. Divide the number of sample cases that have already been selected by the number of cases to be eliminated (obtained in Step 3) to obtain the secondary sampling interval to be used in identifying the specific cases to be eliminated.

5. Use a random start and apply the secondary sampling interval obtained in Step 4 to select cases from the list of sample cases already selected. The cases so identified are to be eliminated.

For months for which sample cases have not yet been selected:

6. Use the corrected sampling interval for the reporting period obtained in Step 1 to select sample cases from the monthly frames.

2720 CORRECTING FOR UNDERSAMPLING

Undersampling generally occurs if the number of dropped cases is greater than expected or the estimate of the caseload for the reporting period is too high. When such misestimation occurs, a larger sampling interval than appropriate is used, resulting in a sample which does not meet minimum requirements.

The recommended method for correcting undersampling in order to produce unbiased estimates without resorting to complex weighting procedures, is as follows:

1. Using the methods described in Section 2510 recompute the correct sampling interval for the entire reporting period using revised estimates of the sample frame size and the fraction of reviews to be dropped for all reasons.

For each month in which sample cases have already been selected:

2. Compute a revised estimate of the number of sample cases which should have been selected in the month, as follows:

Revised estimate of the number of sample cases for the month	=	Monthly Sample Selection List Size ÷ Revised Sampling Interval

3. Subtract the number of cases that have already been selected from the number obtained in Step 2. This is the number of additional cases to be selected from the monthly frame.

4. Divide the total monthly sample frame size by the number identified in Step 3 to obtain the secondary sampling interval to be used in identifying the additional cases to be selected from the monthly sample frame.

5. Use a random start and apply the secondary sampling interval calculated in Step 4 to the monthly sample frame from which cases have already been selected. The specific cases identified are to be added to the cases already selected and reviewed for the same month as the month of the sample frame from which it was selected. (If a case that has been previously selected in the sample is identified, an alternate case should be selected by use of a table of random numbers). This procedure oversamples for cases that are listed in error. Cases that are selected which are listed in error should be discarded.

For months for which sample cases have not yet been selected:

6. Use the corrected sampling interval for the reporting period obtained in Step 1 to select sample cases from the monthly frames.

2730 ALTERNATE METHOD OF CORRECTING FOR OVERSAMPLING OR UNDERSAMPLING

This procedure involves no adjustment of the months for which cases were already selected. It involves, however, the computation of a new sampling interval which will either (1) undersample the remaining months of the reporting period to meet minimum sample size requirements if the earlier months had been oversampled, or (2) oversample the remaining months of the reporting period to meet minimum sample size requirements if the earlier months had been undersampled. The new sampling interval is computed using revised assumptions according to procedures outlined in Section 2510, applied to the remaining months of the review period with the objective of completing the minimum required sample size. However, since different sampling intervals are used, a stratified sample is created (each sampling interval defines a stratum). Procedures for reporting data will be different since the results from each stratum cannot be added directly to obtain Statewide counts, but must be weighted according to directions in Section 2731. Since the MQC sample is already stratified (e.g. AFDC, Medical Assistance Only, SSI), actually substratification is produced. (For greater detail on this subject, see Section 2800). This section details procedures for reporting data for the AFDC, MAO or SSI groups.

2731 Reporting of Data from Samples Obtained Using Different Sampling Intervals (Stratified Samples)

Since the data are obtained using different sampling intervals for each stratum, sample results cannot be directly added but must be weighted before being combined. The data for each stratum (cases with a common sampling interval) are weighted by factors associated with the stratum.

Rules for Combining Stratified Sample Data

1. Counts of completed cases are never weighted, but added directly.

2. Data in the form of rates (percentages) in each stratum must be multiplied by the proportion that the caseload in the stratum is of the caseload across all strata, then added together.

3. Data in the form of counts (frequencies) is obtained by multiplying the corresponding weighted rate (obtained in Step 2) by the total number of cases completed (obtained in Step 1) in all strata.

   This procedure is followed for all substrata to complete report forms to be submitted to HCFA for all data in each stratum (e.g., AFDC, Medical Assistance Only, SSI).

Example: A Stratified MAO Sample

	Stratum 1	Stratum 2	Stratum 3	Total
Sampling Interval	45	47	70	
Caseload of Interest (LIEs eliminated)	25,000	10,000	7,500	42,500
Cases Completed (Selected minus drops)	500	200	100	800
Number of Ineligible Cases	10	8	3	21
Percentage of Ineligible Cases	2%	4%	3%	

Combined data for these 3 strata should be reported as:

- Cases Completed = 500 + 200 + 100 = 800

- Percentage of Ineligible Cases = $2 \times \frac{25,000}{42,500} + 4 \times \frac{10,000}{42,500} + 3 \times \frac{7,500}{42,500}$

  = 2.65%

- Number of Ineligible Cases = 2.65% x 800 = 21.2

2800 GUIDELINES FOR EXPANDED AND STRATIFIED SAMPLES

A State may choose to modify the basic sample requirements (as presented in Sections 2500 through 2600 of this manual) by expanding the size of the sample (i.e., increasing the number of cases that are to be reviewed) or dividing the sample into strata representing homogeneous subgroups of the population at interest (refer to Section 2240 for a more detailed discussion of stratification).

Section 2810 below provides guidelines for expanding the sample size for States choosing to increase the sample beyond the minimum requirements specified in Appendix A. It should be noted that the basic MQC sample design is already stratified, with the strata depending upon Medicaid determination for SSI cases. Section 2820 presents guidelines that a State must use if it chooses to substratify the MQC sample. (e.g. further stratify the Medical Assistance Only sample).

2810 GUIDELINES FOR EXPANDING THE SAMPLE SIZE

States may choose to increase the number of completed reviews beyond the minimum numbers specified in Appendix A; however, the following guidelines must be adhered to:

1. If additional cases are to be selected across the entire spectrum of one of the State MQC populations (AFDC, Medical Assistance Only, SSI) in accordance with the State sampling plan, the additional cases are to be considered as part of the MQC sample. All reports submitted are to include these cases and associated review information.

2. If, however, the additional cases are to come only from a particular segment of one of the populations (e.g. a geographic area, or a particular case type) such additional cases may, at State option, not be considered as part of the MQC sample and may not be included in reports to HCFA. However, the sampling plan submitted to the Regional Office must identify this segment of cases, and when the sample from the segment is selected, appropriate controls must be applied to separate these cases from the rest of the

cases included in the MQC process. If these cases are included in reports to HCFA, they must be weighted in accordance with the rules of Section 2731. If these additional cases are selected with a different sampling methodology, they are to be excluded from reports to HCFA.

Note that any planned expansions in the sample size must be explained in detail, in the sample plan documentation submitted to HCFA for approval.

2820 GUIDELINES FOR FURTHER STRATIFICATION

As explained in previous sections of this manual, the basic MQC sample design requires that the Medicaid population in a State be stratified into either two or three groups as follows:

- 1634 States

  - Medical Assistance Only
  - SSI
  - AFDC

- 209 (b) and State Determination/SSI Criteria States

  - Medical Assistance and Others
  - AFDC

A State may choose to further stratify into substrata any sample which it independently selects and reviews (a sample other than the AFDC sample). For example a 209(b) State may divide its Medical Assistance and Other caseload into three strata, each of which represents a different region of the State, and select sample cases independently from regional sample selection lists.

In substratifying the sample, a State must comply with the following guidelines:

- There can be no more than three substrata in each stratum;

- There can be no fewer than 75 completed case reviews per substratum.

If a State chooses to substratify the sample, it must specify how it intends to do so in the sample plan documentation. If a compelling case can be made for substratification that does not adhere to the above guidelines, it will be considered by the HCFA Regional Office.

2900 ERROR RATES

Based upon observations made from the sample, various error rates will be estimated. Examples of the types of error rates that shall be estimated are the following:

- Dollar Error Rate = $\frac{\text{Dollars paid in error in sample}}{\text{Total Expenditures in sample}}$

- Average Dollars Paid in Error per case for cases for which at least one claim was paid in error = $\frac{\text{Dollars paid in error in sample}}{\text{Number of Cases for which at least one claim was paid in error in sample}}$

- Average Dollars Paid in Error per total case = $\frac{\text{Dollars paid in error in sample}}{\text{Number of cases in sample}}$

- Ineligible Case Rate = $\frac{\text{Number of ineligible cases}}{\text{Total number of cases}}$

Each rate would be estimated separately in each stratum, then weighted and combined to give an overall rate.

The weighting procedures will be:

For case error rates

$$\text{Overall rate} = \sum_{\text{over all strata}} X_i \times \text{percent of cases in stratum population}$$

where X_i = stratum case error rate

For payment error rates

$$\text{Overall rate} = \sum_{\substack{\text{over} \\ \text{all} \\ \text{strata}}} Y_i \times \begin{array}{l}\text{percent of total dollars} \\ \text{paid to each stratum} \\ \text{population of cases}\end{array}$$

where Y_i = stratum payment error rate

APPENDICES

APPENDIX A - SAMPLE SIZES

Region I	SSI Relationship	Minimum Required Number of Completed Reviews for MQC in 6-month period: AFDC	MAO	MA & Others	SSI (1634 States Only): Total	FFL	Non-FFL	Minimum Number of Reviews Completed by SSI in Non-1634 States *: Total	FFL	Non-FFL
Connecticut	. 209b	1200	-	375	-	-	-	150	-	150
Maine	. 1634 Contract	550	225	-	610	550	60	-	-	-
Massachusetts	. 1634 Contract	1200	875	-	1320	1200	120	-	-	-
New Hampshire	. 209b	200	-	175	-	-	-	120	-	120
Rhode Island	. 1634 Contract	300	275	-	360	300	60	-	-	-
Vermont	. 1634 Contract	150	225	-	230	200	30	-	-	-
Total Region II										
New Jersey	. 1634 Contract	1200	375	-	1320	1200	120	-	-	-
New York	. 1634 Contract	1200	875	-	1320	1200	120	-	-	-
Puerto Rico 2/		1200	-	175	-	-	-	-	-	-
Virgin Islands 2/		150	-	175	-	-	-	-	-	-
Total Region III										
Delaware	. 1634 Contract	300	175	-	195	75	120	-	-	-
D.C.	. 1634 Contract	800	275	-	195	75	120	-	-	-
Maryland	. 1634 Contract	1200	550	-	320	120	200	-	-	-
Pennsylvania	. 1634 Contract	1200	875	-	1320	1200	120	-	-	-
Virginia	. 209b	1200	-	550	-	-	-	200	-	200
West Virginia	. 1634 Contract	550	175	-	200	-	200	-	-	-
Total Region IV										
Alabama	. 1634 Contract	1200	225	-	300	-	300	-	-	-
Florida	. 1634 Contract	1200	275	-	530	30	500	-	-	-
Georgia	. 1634 Contract	1200	275	-	520	120	400	-	-	-
Kentucky	. 1634 Contract	1200	375	-	300	-	300	-	-	-
Mississippi	. 209b	1200	-	875	-	-	-	366	66	300
North Carolina	. 209b	1200	-	375	-	-	-	400	-	400
South Carolina	. 1634 Contract	1200	225	-	300	-	300	-	-	-
Tennessee	. 1634 Contract	1200	225	-	312	12	300	-	-	-
Total Region V										
Illinois	. 209b	1200	-	550	-	-	-	400	-	400
Indiana	. 209b	1200	-	275	-	-	-	150	-	150
Michigan	. 1634 Contract	1200	550	-	1320	1200	120	-	-	-
Minnesota	. 209b	1200	-	375	-	-	-	150	-	150
Ohio	. 209b	1200	-	375	-	-	-	420	120	300
Wisconsin	. 1634 Contract	1200	550	-	1320	1200	120	-	-	-

Total Region VI										
Arkansas	. 1634 Contract	800	225	-	320	120	200	-	-	-
Louisiana	. 1634 Contract	1200	275	-	520	120	400	-	-	-
New Mexico	. 1634 Contract	550	175	-	150	-	150	-	-	-
Oklahoma	. 209b	800	-	275	-	-	-	200	-	200
Texas	. 1634 Contract	1200	550	-	600	-	600	-	-	-
Total Region VII										
Iowa	. 1634 Contract	800	275	-	270	150	120	-	-	-
Kansas	. State Determination/SSI Criteria	550	-	275	-	-	-	174	24	150
Missouri	. 209b	1200	-	275	-	-	-	300	-	300
Nebraska	. 209b	300	-	225	-	-	-	120	-	120
Total Region VIII										
Colorado	. 209b	800	-	275	-	-	-	150	-	150
Montana	. 1634 Contract	150	175	-	120	GR 3/	120	-	-	-
North Dakota	. 209b	150	-	175	-	-	-	120	-	120
South Dakota	. 1634 Contract	200	175	-	138	18	120	-	-	-
Utah	. 209b	300	-	225	-	-	-	120	-	120
Wyoming	. 1634 Contract	150	175	-	120	-	120	-	-	-
Total Region IX										
Arizona	.	-	-	-	-	-	-	-	-	-
California	. 1634 Contract	1200	875	-	1620	1500	120	-	-	-
Guam		150	-	175	-	-	-	-	-	-
Hawaii	. 209b	300	-	275	-	-	-	230	200	30
Nevada	. State Determination/SSI Criteria	150	-	175	-	-	-	210	150	60
Total Region X										
Alaska	. State Determination/SSI Criteria	150	-	175	-	-	-	120	-	120
Idaho	. State Determination/SSI Criteria	150	-	175	-	-	-	120	-	120
Oregon	. State Determination/SSI Criteria	1200	-	225	-	-	-	150	-	150
Washington	. 1634 Contract	1200	375	-	1320	1200	120	-	-	-

*) Sample sizes are not minimums for MQC but are presented as a guide to non-1634 States.
1) Plus Adult Categories - 300
2) Plus Adult Categories - 75
3) Group rate - No sample selected by SSI in this sub-stratum. Since these cases must be represented in MQC, State must select its own FFL-SSI cases. At a minimum, this number must be sufficient to produce a proportional sample across the entire SSI stratum.

APPENDIX B

Table of Random Sampling Numbers

A table of random numbers is a compilation of numbers whose frequency and sequence of occurrence have been determined entirely by chance. Since the position that any digit occupies in such a table is a result of chance, any number formed by a combination of these digits, in any sequence, obtained by any progression, systematic or random, in any direction from any starting point, may be regarded as a random grouping or selection.

The only requirement is that all of the items from which a random selection is to be made have, or be assigned, individual identifying numbers. The entire group of numbered items may be regarded,for certain purposes, as a statistical population. A selection of any part of that statistical population by means of a table of random numbers may be regarded as a random sample of the population. Since tables of random digits or numbers were developed primarily for sampling purposes, they are often called tables of "random sampling numbers."

For simplicity of use, published tables of random numbers usually appear in the form of separate columns of five digit numbers. Both rows and columns may be consecutively numbered for easy reference. The number of digits required for the numbers that are to be used in any given application of the table depends in general upon the size of the population of items from which the selection is to be made. More specifically it depends upon the number of digits in the highest number assigned to units of the population to be sampled.

For example, if the population to be sampled consists of 84 cases, numbered from 1 through 84, random numbers of two digits are required. If in a large group the highest number assigned is 796, random numbers of three digits are required. To obtain a two-digit, three-digit, seven-digit or other size number from the table, combine adjacent digits as needed. It makes no difference where in the table one begins or in which direction one moves in selecting random numbers. However, each time the table is used, a different starting point should be selected.

Example: If the highest consecutively numbered case in the population is 7,543, assume that a randomly selected location starts with the four digits in line (49) column (2). Assume also that it is decided in advance that the numbers to be used in drawing the sample will be consecutive numbers obtained by reading across the columns from left to right on each consecutive line in the table until a sample of the desired size has been accumulated. If the first four digits of each number in each five-digit column are used, the sample would consist of cases identified as 6837, 7076, 1059, 0454, 5432, 0234, 1724, 2886,

1477, 6273, 1566, and so on until the desired sample size is obtained. The numbers 9352, 7646, 9227, as well as any other number larger than 7543 that may later be encountered are not usable for this universe and are, therefore, rejected.

TABLE OF RANDOM SAMPLING NUMBERS

Line \ Col.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1	10480	15011	01536	02011	81647	91646	69179	14194	62590	36207	20969	99570	91291	90700
2	22368	46573	25595	85393	30995	89198	27982	53402	93965	34095	52666	19174	39615	99505
3	24130	48360	22527	97265	76393	64809	15179	24830	49340	32081	30680	19655	63348	58629
4	42167	93093	06243	61680	07856	16376	39440	53537	71341	57004	00849	74917	97758	16379
5	37570	39975	81837	16656	06121	91782	60468	81305	49684	60672	14110	06927	01263	54613
6	77921	06907	11008	42751	27756	53498	18602	70659	90655	15053	21916	81825	44394	42880
7	99562	72905	56420	69994	98872	31016	71194	18738	44013	48840	63213	21069	10634	12952
8	96301	91977	05463	07972	18876	20922	94595	56869	69014	60045	18425	84903	42508	32307
9	89579	14342	63661	10281	17453	18103	57740	84378	25331	12566	58678	44947	05585	56941
10	85475	36857	53342	53988	53060	59533	38867	62300	08158	17983	16439	11458	18593	64952
11	28918	69578	88231	33276	70997	79936	56865	05859	90106	31595	01547	85590	91610	78188
12	63553	40961	48235	03427	49626	69445	18663	72695	52180	20847	12234	90511	33703	90322
13	09429	93969	52636	92737	88974	33488	36320	17617	30015	00772	84115	27156	30613	74952
14	10365	61129	87529	85689	48237	52267	67689	93394	01511	26853	85104	20201	29975	89868
15	07119	97336	71048	08178	77233	13916	47564	81056	97595	25977	29372	74461	28551	90707
16	51085	12765	51821	51259	77452	16308	60756	92144	49442	53594	70960	63990	75601	40719
17	02368	21382	52404	60268	89368	19885	55322	44819	01689	65255	64835	44919	05944	55157
18	01011	54092	33362	94904	31273	04146	18594	29852	71585	85030	51132	01915	92747	64951
19	52162	53916	46369	58586	23216	14513	83149	98736	23495	64350	94738	17752	35156	35749
20	07056	97628	33787	09998	42698	06691	76988	13602	51851	46104	88916	19509	25625	58104
21	48663	91245	85828	14346	09172	30168	90229	04734	59193	22178	30421	61666	99904	32812
22	54164	58492	22421	74103	47070	25306	76468	26384	58151	06646	21524	15247	96909	44592
23	32639	32363	05597	24200	13363	38005	94342	28728	35806	06912	17012	64161	18296	22851
24	29334	27001	87637	87308	58731	00256	45834	15398	46557	41135	10367	07684	36188	18510
25	02488	33062	28834	07351	19731	92420	60952	61280	50001	67658	32586	86679	50720	94953
26	81525	72295	04839	96423	24878	82651	66566	14778	76797	14780	13300	87074	79666	95725
27	29676	20591	68086	26432	46901	20849	89768	81536	86645	12659	92259	57102	80428	25280
28	00742	57392	39064	66432	84673	40027	32832	61362	98947	96067	64760	64584	96096	98253
29	05366	04213	25669	26422	44407	44048	37937	63904	45766	66134	75470	66540	34693	90449
30	91921	26418	64117	94305	26766	25940	39972	22209	71500	44569	91402	42416	07844	69618
31	00582	04711	87917	77341	42206	35126	74087	99547	81817	42607	43808	76655	62028	76630
32	00725	69884	62797	56170	66324	88072	76222	36086	84637	93161	76038	65855	77919	88006
33	69011	65795	95876	55293	18988	27354	26575	08625	40801	59920	29841	80150	12777	48501
34	25976	57948	29688	68604	67917	48708	18912	82271	60424	69774	35611	54262	85963	03547
35	09763	83473	73577	12908	30883	18317	28290	35797	05998	41688	34952	37888	38917	88050
36	91567	42595	27958	30134	04024	86385	29880	99730	55536	84955	29080	09250	79656	73211
37	17955	56349	90999	49127	20044	59931	06115	20542	18059	02008	73708	83517	36103	42791
38	46503	18584	18845	49618	02304	51038	20655	58727	28168	15475	56942	53389	20562	87338
39	92157	89634	94824	78171	84610	82834	09922	25417	44137	48413	25555	21246	35509	20468
40	14577	62765	35605	81263	39667	47358	56873	56307	61607	49518	89686	20103	77490	18062
41	98427	07523	33262	64270	01638	92477	66969	98420	04880	45585	46565	04102	46880	45709
42	34914	63976	88720	82765	34476	17032	87589	40836	32427	70002	70663	88863	77775	69348
43	70060	28277	39475	46473	23219	53416	94970	25832	69975	94884	19661	72828	00102	66794
44	53976	54914	06990	67245	68350	82948	11398	42878	80287	88267	47363	46634	06541	97809
45	76072	29515	40980	07391	58745	25774	22987	80059	39911	96189	41151	14222	60697	59583
46	90725	52210	83974	29992	65831	38857	50490	83765	55657	14361	31720	57375	56228	41546
47	64364	67412	33339	31926	14883	24413	59744	92351	97473	89286	35931	04110	23726	51900
48	08962	00358	31662	25388	61642	34072	81249	35648	56891	69352	48373	45578	78547	81788
49	95012	68379	93526	70765	10592	04542	76463	54328	02349	17247	28865	14777	62730	92277
50	15664	10493	20492	38391	91132	21999	59516	81652	27195	48223	46751	22923	32261	85653

TABLE OF RANDOM SAMPLING NUMBERS

Line \ Col.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
51	16408	81899	04153	53381	79401	21438	83035	92350	36693	31238	59649	91754	72772	02338
52	18629	81953	05520	91962	04739	13092	97662	24822	94730	06496	35090	04822	86774	98289
53	73115	35101	47498	87637	99016	71060	88824	71013	18735	20286	23153	72924	35165	43040
54	57491	16703	23167	49323	45021	33132	12544	41035	80780	45393	44812	12515	98931	91202
55	30405	83946	23792	14422	15059	45799	22716	19792	09983	74353	68668	30429	70735	25499
56	16631	35006	85900	98275	32388	52390	16815	69298	82732	30480	73817	32523	41961	44437
57	96773	20206	42559	78985	05300	22164	24369	54224	35083	19687	11052	91491	60383	19746
58	38935	64202	14349	82674	66523	44133	00697	35552	35970	19124	63318	29686	03387	59846
59	31624	76384	17403	53363	44167	64486	64758	75366	76554	31601	12614	33072	60332	92335
60	78919	19474	23632	27889	47914	02584	37680	20801	72152	39339	34906	08930	85001	87820
61	03931	33309	57047	74211	63445	17361	62825	39908	05607	91284	68833	25570	38818	46920
62	74426	33278	43972	10119	89917	15665	52872	73823	73144	88662	88970	74492	51805	99378
63	09066	00903	20795	95452	92648	45454	09552	88815	16553	51125	79375	97596	16296	66092
64	42238	12426	87025	14267	20979	04508	64535	31355	86064	29472	47689	05974	52468	16834
65	16153	08002	26504	41744	81959	65642	74240	56302	00033	67107	77510	70645	28735	34191
66	21457	40742	29820	96783	29400	21840	15035	34537	33310	06116	95240	15957	16572	06004
67	21581	57802	02050	89728	17937	37621	47075	42080	97403	48626	68995	43805	33386	21597
68	55612	78095	83197	33732	05810	24813	86902	60397	16489	03264	88525	42786	05269	92532
69	44657	66999	99324	51281	84463	60563	79312	93454	68876	25471	93911	25650	12682	73572
70	91340	84979	46949	81973	37949	61023	43997	15263	80644	43942	89203	71795	99533	50501
71	91227	21199	31935	27022	84067	05462	35216	14486	29891	68607	41867	14951	91696	85065
72	50001	38140	66321	19924	72163	09538	12151	06878	91903	18749	34405	56087	82790	70925
73	65390	05224	72958	28609	81406	39147	25549	48542	42627	45233	57202	94617	23772	07896
74	27504	96131	83944	41575	10573	08619	64482	73923	36152	05184	94142	25299	84387	34925
75	37169	94851	39117	89632	00959	16487	65536	49071	39782	17095	02330	74301	00275	48280
76	11508	70225	51111	38351	19444	66499	71945	05422	13442	78675	84081	66938	93654	59894
77	37449	30358	06694	54690	04052	53115	62757	95348	78662	11163	81651	50245	34971	52924
78	46515	70331	85922	38329	57015	15765	97161	17869	45349	61796	66345	81073	49106	79860
79	30986	81223	42416	58353	21532	30502	32305	86482	05174	07901	54339	58861	74818	46942
80	63798	64995	46583	09785	44160	78128	83991	42865	92520	83531	80377	35909	81250	54238
81	82486	84846	99254	67632	43218	50076	21361	64816	51202	88124	41870	52689	51275	83556
82	21885	32906	92431	09060	64297	51674	64126	62570	26123	05155	59194	52799	28225	85762
83	60336	98782	07408	53458	13564	59089	26445	29789	85205	41001	12535	12133	14645	23541
84	43937	46891	24010	25560	86355	33941	25786	54990	71899	15475	95434	98227	21824	19585
85	97656	63175	89303	16275	07100	92063	21942	18611	47348	20203	18534	03862	78095	50136
86	03299	01221	05418	38982	55758	92237	26759	86367	21216	98442	08303	56613	91511	75928
87	79626	06486	03574	17668	07785	76020	79924	25651	83325	88428	85076	72811	22717	50585
88	85636	68335	47539	03129	65651	11977	02510	26113	99447	68645	34327	15152	55230	93448
89	18039	14367	61337	06177	12143	46609	32989	74014	64708	00533	35398	58408	13261	47908
90	08362	15656	60627	36478	65648	16764	53412	09013	07832	41574	17639	82163	60859	75567
91	79556	29068	04142	16268	15387	12856	66227	38358	22478	73373	88732	09443	82558	05250
92	92608	82674	27072	32534	17075	27698	98204	63863	11951	34648	88022	56148	34925	57031
93	23982	25835	40055	67006	12293	02753	14827	23235	35071	99704	37543	11601	35503	85171
94	09915	96306	05908	97901	28395	14186	00821	80703	70426	75647	76310	88717	37890	40129
95	59037	33300	26695	62247	69927	76123	50842	43834	85654	70959	79725	93872	28117	19233
96	42488	78077	69882	61657	34136	79180	97526	43092	04098	73571	80799	76536	71255	64239
97	46764	86273	63003	93017	31204	36692	40202	35275	57306	55543	53203	18098	47625	88684
98	03237	45430	55417	63282	90816	17349	88298	90183	36600	78406	06216	95787	42579	90730
99	86591	81482	52667	61582	14972	90053	89534	76036	49199	43716	97548	04379	46370	28672
100	38534	01715	94964	87288	65680	43772	39560	12918	86537	62738	19636	51132	25739	56947

TABLE OF RANDOM SAMPLING NUMBERS

Line \ Co.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
101	13284	16634	74151	92027	24670	36665	00770	22678	02179	51602	07270	76517	97475	45960
102	21224	00370	30420	03883	94648	89428	41583	17564	27395	63104	41548	49197	82277	24126
103	99052	47827	81085	64933	66279	80432	65793	83287	34142	13241	30590	97760	35848	91683
104	00199	50993	98603	38452	87890	94624	69721	57484	67501	77638	44331	11257	71131	11059
105	60578	06483	28733	37867	07936	98710	98539	27186	31237	80612	44488	97819	70401	95419
106	51240	15312	17441	01929	19163	69201	31211	54288	35296	37318	65724	90401	79017	62077
107	97458	14229	12063	59611	32249	90466	33216	19358	02591	54263	88449	01912	07436	50813
108	35245	38646	34475	72417	60514	49257	16489	51924	80871	92446	38607	11458	30440	5 639
109	38980	46600	11759	11900	46743	27860	77940	39298	97038	91145	32378	68038	89351	37005
110	10750	52745	38749	87365	58959	53731	89295	59062	35404	13128	59960	70408	29812	83126
111	36247	27850	73458	20673	37800	63835	71051	84724	52492	22342	78071	17456	96104	18327
112	70994	66986	99744	72438	01174	42159	11392	20724	54322	36923	70009	23233	65436	59685
113	59638	94702	11463	18148	81386	80431	90624	52506	02051	85151	88598	47821	00265	82525
114	78055	15774	43857	99805	10419	76939	25993	03544	21567	83471	43989	90770	22965	44247
115	24038	65541	85788	55835	38835	59399	13790	35112	01324	39520	76210	22467	83275	32286
116	74976	14631	35908	28221	39470	91548	12854	30166	09073	75887	36782	00268	97121	57676
117	35553	71628	70189	26436	63407	91178	90348	55359	80392	41012	36270	77786	85578	21059
118	35676	12797	51434	82976	42010	26344	96920	92155	58807	54644	58581	95331	78629	73344
119	74815	67523	72985	23183	02446	63594	98924	20633	58842	85561	07648	70164	34994	67602
120	45246	68048	65173	50989	91060	89894	36036	32819	68555	99221	49475	50558	34698	71800
121	76509	47069	86378	41797	11910	49672	88575	97966	32466	10083	54728	81972	58975	30761
122	19689	90332	04315	21358	97248	11188	39062	63312	52496	07349	79178	33692	57352	72862
123	42751	35318	97513	61537	54955	08159	00337	80778	27507	95478	21252	12746	37554	97775
124	11946	22681	45045	13964	57517	59419	58045	44067	58716	58840	45557	96345	33271	53464
125	96518	48688	20996	11090	48396	57177	83867	86464	14342	21545	46717	72364	86954	55580
126	35726	58643	76869	84622	39098	36083	72505	92365	23107	60278	05822	46760	44294	07672
127	39737	42750	46968	70536	84864	64952	38404	94317	65402	13589	01055	79044	19308	83623
128	97025	66492	56177	04049	80312	48028	25408	43591	75528	65341	49044	95495	81256	53214
129	62814	08075	09788	56350	76707	51591	54509	49295	85830	59860	30883	89660	96142	18354
130	25578	22950	15227	83291	41737	79599	96191	71845	86899	70694	24290	01551	80092	82118
131	68763	69576	88991	49662	46704	63362	56625	00481	73323	91427	15264	06969	57048	54149
132	17900	03513	64361	60725	68974	61005	99709	30666	26451	11528	44323	34778	60342	66388
133	71944	60227	63551	71109	05624	43836	58254	26160	32116	63403	35404	57146	10909	07346
134	54684	93691	85132	64399	29182	44324	14491	55226	76793	34107	30374	48429	91376	09559
135	25946	27623	11258	65204	52832	50860	24273	05554	99521	73791	85744	29276	70326	60251
136	01353	39318	44961	44972	91766	90262	56073	06606	51826	18893	83448	31915	97764	71091
137	99083	88191	27662	99113	57174	35571	99884	13951	71057	53961	61448	74909	07322	80960
138	52021	45406	37945	75234	24327	86978	22644	87779	23753	99926	63898	54886	18051	96314
139	78755	47744	43776	83098	03225	14281	83637	55984	13300	52212	58781	14905	46508	04472
140	25282	69106	59160	16257	22810	43609	12224	25643	89884	31149	86423	32581	34374	70673
141	11959	94202	02743	86847	79725	51811	12998	76844	05320	54236	53891	70226	38632	84776
142	11544	13792	95190	01424	30078	28197	55583	05197	47714	60440	22016	79204	05862	94451
143	06307	97912	66110	59812	95448	43244	31262	88880	13040	16458	43813	69416	42402	33939
144	76285	75714	89585	99296	52640	46518	55486	90754	88932	19937	57119	23251	55619	23679
145	55322	07598	39600	60866	63007	20007	66819	84164	61131	81429	60676	42807	78286	29015
146	78017	90928	90220	92503	83375	26986	74399	30885	88567	29169	72816	53357	15428	86932
147	44768	43342	20696	26331	43140	69744	82928	24988	94237	46138	77426	39039	55596	12655
148	25100	19336	14605	86603	51680	97678	24261	02464	86533	74812	60069	71674	15478	47642
149	83612	46623	62876	85197	07824	91392	58317	37726	84628	42221	10268	20692	15699	29167
150	41347	81666	82961	60413	71020	83658	02419	33322	66036	98712	46795	16308	28413	05417

TABLE OF RANDOM SAMPLING NUMBERS

Line \ Col.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
151	38128	51178	78096	13609	16110	73533	42564	59870	29399	67834	91055	89917	51096	89011
152	60950	00455	73254	96067	50717	13078	03816	78274	65863	37011	91483	33914	91303	49326
153	90524	17320	29832	96118	75792	85326	22940	24904	80523	36928	91374	85597	97567	38914
154	49897	10278	67160	39408	97056	43817	84426	59650	20247	19293	02019	14790	02852	05819
155	18494	99209	81060	19488	65596	59787	47935	91285	98768	43688	00438	05548	09443	82097
156	65373	72904	30171	37741	70203	94094	87261	30056	58124	70133	18936	02138	59372	09075
157	40653	18845	04213	70928	95360	85774	76439	61768	82817	81151	82188	31940	84973	42032
158	51638	22238	86344	44587	83231	80317	74581	07719	85472	41602	77318	18145	57516	07633
159	69742	99303	62578	83575	30337	07488	51941	84316	42067	49692	88616	39101	03013	73449
160	58018	74072	67488	74580	47992	69482	58624	17106	47538	13452	82620	24260	40155	74716
161	18348	19885	42867	08279	43206	47077	42637	45606	00011	20662	14642	49964	94507	56350
162	59614	09193	58064	29086	44385	45740	70752	05663	49081	26960	57454	99264	24548	74648
163	75688	28630	39210	52897	62748	72658	58059	67202	72799	01869	13496	14663	87545	89713
164	13941	77803	69101	70061	35469	34576	15412	81304	58757	35498	94030	75981	00603	27701
165	96556	86480	96475	86458	84463	95419	55417	41375	76858	19008	66877	38934	59801	00497
166	03363	83042	15942	14549	38324	07094	19069	67590	11087	60570	28391	65232	85915	91499
167	70366	08390	69155	25496	13440	57407	91407	49160	07379	34444	94567	66035	38918	65708
168	47870	36695	18927	16043	53257	93796	58721	73120	48028	76074	95605	67422	11646	14557
169	79504	77606	22761	30818	28373	73898	30550	76684	77366	32276	04690	61667	64798	66276
170	46967	74841	50923	18339	37755	98995	40162	89861	69199	42887	11647	47603	48779	97907
171	14558	50769	38444	82030	87516	48193	02945	00938	46189	94724	21263	20922	92955	90351
172	12440	26057	01132	39611	89135	68039	10954	10097	54243	06460	50356	65435	79377	53890
173	32293	39938	69653	10497	98919	46587	77701	99119	93155	67789	17538	23097	31460	36998
174	10640	21875	72462	77981	56550	55999	87310	69643	45124	00349	25748	00844	96031	30651
175	47615	23169	32571	86972	80628	21708	81736	33133	72696	32605	41569	76148	91544	21121
176	16946	11128	71624	78784	49084	96303	87030	45817	67867	18062	87453	17286	72904	71474
177	21858	61092	66634	70335	98448	17354	83432	49608	66520	06442	59664	30480	39201	69549
178	18072	48853	15178	30730	47461	48490	41436	25015	49932	30474	53221	51015	79541	32405
179	99184	57418	09858	65671	70655	71479	63580	31357	56963	06729	34465	70683	04184	25350
180	08759	61089	93706	32994	35426	36666	63933	90844	37532	03269	27021	45806	28835	78451
181	67323	57039	61114	63192	47847	59023	64630	24086	98777	75443	95533	06141	45096	73117
182	09383	13906	84834	20764	78206	89393	34548	93430	80730	61008	78955	18952	46435	56749
183	36304	74718	00374	10107	85061	69220	01969	92216	03566	39530	81069	52624	50937	27954
184	15884	67429	86612	47367	10248	44880	12060	44309	46629	55105	66795	93173	00480	13311
185	18745	38031	36303	08134	33985	03004	89929	95418	04917	57896	84878	61733	92834	64454
186	78934	40066	89298	65786	38300	48333	64068	98373	48971	09049	89943	36536	05976	02118
187	17686	02944	20910	57662	00181	38579	24580	90522	52303	80436	29401	57834	86039	81062
188	27117	61399	50967	41399	81636	15663	15634	79717	94696	89240	25543	97909	63306	99246
189	93995	18678	90018	63646	85701	85262	69263	68331	00389	78871	18310	20769	44686	96176
190	67392	89421	09623	80725	62620	84168	87368	29560	00519	84545	06004	24526	41252	14521
191	04916	19261	37566	80016	21245	69377	50420	85658	55263	66667	78770	04533	14513	18099
192	01453	20283	79929	59839	23875	13245	46008	74124	74703	35769	95588	21014	37078	39170
193	19400	75790	48639	85703	15537	48005	02861	66587	74539	65227	90799	58789	96257	02708
194	21456	13164	74608	81011	55312	07481	93581	72189	76261	91206	89941	15138	37738	59284
195	89406	20914	46169	76376	25638	87212	90748	12831	87166	36026	16817	79121	18929	40628
196	09866	07414	85977	16419	01101	69343	13305	94302	80703	57910	34933	57771	48546	03003
197	86841	24681	23421	13521	20000	94917	07423	57523	97334	63951	46976	46849	09781	58160
198	10414	96941	06206	72322	57167	83902	07460	69507	10600	00858	07686	44472	64230	27640
199	49948	06683	41479	68962	56268	48853	92196	20332	62045	78812	35095	51851	95534	10589
200	83995	80882	42391	83374	24299	67024	67460	94703	40957	16961	26033	70749	46704	21983

APPENDIX C

Glossary of Terms

The terms included in this appendix include statistical terms that are generally encountered in sampling as well as specific terms included in this sampling manual.

1. Absolute Value - disregards all negative values of numbers; considers all numbers positive.

2. Adequate Sample - pertains most commonly to the size of a sample; a sample is adequate if its size is large enough to give the degree of precision or reliability required in a given sample estimate.

3. Alpha - the allowable probability associated with observed differences attributed to chance. If the probability associated with sample differences is less than alpha, we can reasonably conclude that a real difference between samples exists.

4. Bias - systematic error, leading to distortion in one direction of a statistical result; distinct from random error, where distortion in both directions may be largely self-canceling.

5. Caseload - the "target" population, comprised of only those cases included in the QC system for Medicaid.

6. Confidence Interval - the interval between two sample values, known as confidence limits, within which it may be asserted with a specified degree of confidence that the true population value lies.

7. Confidence Limits - the values which form the upper and lower limits of the confidence interval.

8. Equal Probability of Selection - selection of a sample where every case has an independent and equal chance of inclusion in the sample (also called self-weighted sample).

9. Frame - the list of cases from which the sample is actually selected; also known as the sample selection list.

10. Listed in Error - cases included in the sample selection list that are not included in the population of interest.

11. Mean - a measure of the central tendency of data. The sum of the values divided by the number of values.

12. Non-Sampling Error - the error or deviation from the true population value in sample estimates which cannot be attributed to chance sampling variations. Examples are errors resulting from imperfections in the selection of sample units, bias in the estimating procedures used, mistakes in arithmetical calculations, inconsistent review procedures, etc.

13. Normal Distribution - a symmetrical, bell shaped curve which describes the sampling distribution of many common sample statistics. While the sampling distributions of proportions and "percents in error" as used in quality control are more correctly described by the binomial distribution, they are often closely approximated by the normal distribution, and it is common practice to use the normal distribution for this purpose. The normal distribution provides the theoretical basis for the determination of confidence limits and quality control limits, for the specification of particular levels or degree of confidence involved in making sample estimates and in evaluating sampling error.

14. Oversampling - selecting more sample cases than are required in order to compensate for cases that will have to be dropped from the sample.

15. Parameter - a value, property, or characteristic of a population, as distinguished from a sample. Examples are a mean, proportion or percentage, total, range, standard deviation, etc.

16. Population of interest - those units about which we wish to form conclusions from which a sample is selected and estimates made.

17. Precision - see definition for Reliability. The degree to which a sample estimate approximates the true values; the sampling error of a sample estimate.

18. Probability - relative frequency of occurrence; the probability of an event is said to be the relative frequency of occurrence of the event in an indefinitely large number of series of observations.

19. Probability Sampling - any method of sample selection which is based on the theory of probability. Probability sampling, which requires that at any stage of selection the probability of any unit or set of units being selected must be known, is the only general method of sampling which makes it possible to obtain a mathematical measure of the precision of the sample estimate.

20. Random Numbers - series of digits, each occurring independently of each other. Each digit tends to appear as many times as any other, in any progression, if the series selected is large.

21. Random Sampling - the process of selecting a sample from a population so that every unit in the population has a known chance of being included in the sample.

22. Random Start - in selecting a systematic random sample at intervals of some specified number of items in an ordered frame, it is mandatory to select the first item completely without bias. Such selection is then said to have given the sample "a random start."

23. Range - the largest minus the smallest of a group of values.

24. Reliability - (synonymous with precision) - the uniformity of sample results when obtained from repeated samples of the same size and type from the same population; the degree to which a sample estimate approximates the true value.

25. Risk - as used here, refers to the degree of risk associated with given degrees of confidence. For example, if a statement is made "with 95 percent confidence" that the true population parameter lies within a specified interval, there is a "5 percent risk" that the parameter actually lies outside that interval (also called alpha).

26. Sample - part of a universe; a limited or finite number of items selected from a universe, by a prescribed procedure, with the objective of estimating certain values (mean, total proportion, etc.) of the parent universe, or of testing the validity of certain assumptions or hypotheses with respect to particular properties of the universe.

27. Sample Selection List - the list of cases from which the sample is actually selected; also known as the sample frame.

28. Sample size - the number of items in the sample.

29. Sampling Distribution - the distribution of a (sample) statistic, such as a sample mean or a sample proportion or percentage, that would be formed by obtaining such statistics from all possible samples of a given fixed size selected by some specified sampling procedures; a population of all possible sample values of the statistic under consideration.

30. Sampling Error - that part of the difference between a universe value, and an estimate of that value obtained from a random sample, which is due solely to the fact that only a sample of values is observed; to be distinguished from non-sampling error which is due to biased or imperfect sample selection, or real difference due to changes over time, error of observation, recording calculation, etc.

31. Sample Interval - in systematic sampling, the number of cases between selections on the sampling frame.

32. Significant Difference - a difference is statistically significant if it actually exists in the universe. A difference observed in a sample is judged not statistically significant if it could easily have occurred purely as a result of random sampling variations.

33. Simple Random Sample - a probability sample selected in such a way that each unit of the frame has an equal and independent chance of being included in the sample; for samples of any given size, all possible combinations of units that could form samples of that size must have the same probability of selection (usually uses random digits for item selection).

34. Standard Deviation - the most widely used measure of the dispersion (scatter or variability) of a frequency distribution from their arithmetic means. The standard deviation of the sampling distribution of any given statistic is also known as the "standard error" of that statistic.

35. Standard Error - the standard deviation of the sampling distribution of a given statistic; used in measuring precision of an estimate.

36. Stratified Random Sampling - random sampling of a universe which has been divided in a number of sub-universes according to some predetermined criterion (geographic location, characteristic, etc.). The percentage size of each sample must be equal or have individual weighting factors taken into account before the sub-universe sample results can be combined.

37. Stratum - a segment of the universe for which separate estimates are computed for some special reason. All strata must be combined if an estimate of the total universe is to be made.

38. Systematic Random Sample - a sample attained by selecting from a file, list or computer tape, individual items at equally spaced intervals (as every 10th, 140th, 850th, etc. item, as required to obtain a total sample of a given size), with the starting point within the first such interval being determined by random selection.

39. Tolerance - the proportion of sampling error which has been determined to be acceptable.

40. Universe - (also called a Population) - all units about which information is desired; a probability sample of these units yields an estimate of universe values within certain limits of reliability.

41. Weighted Sample - a sample in which the probability of selection is not equal, thereby requiring weighting by various factors so that no segment of the caseload is over-represented.

APPENDIX D

Claims Cut-Off Correction Factor Methodology

Claims paid before, during, and for 4 months after the review month for services incurred in the review month will be collected. However, claims collection will only begin in the 6 month following the review month.

These claims will be used to assess payment error rates for ineligibility, recipient liability, claims processing errors and third party liability errors. This fixed period of claims collection is necessary to begin the CPE and TPL reviews. Nevertheless, an adjustment to ineligibility rates will be made for claims collected beyond the fixed period. This adjustment will be made by collecting claims for earlier sample months which continue to be paid for sampled cases, up to the end of the 4-month period for the last sample month. (Refer to Exhibit D-1 for a schematic showing the claims collection periods.

Data Needed for Adjustment

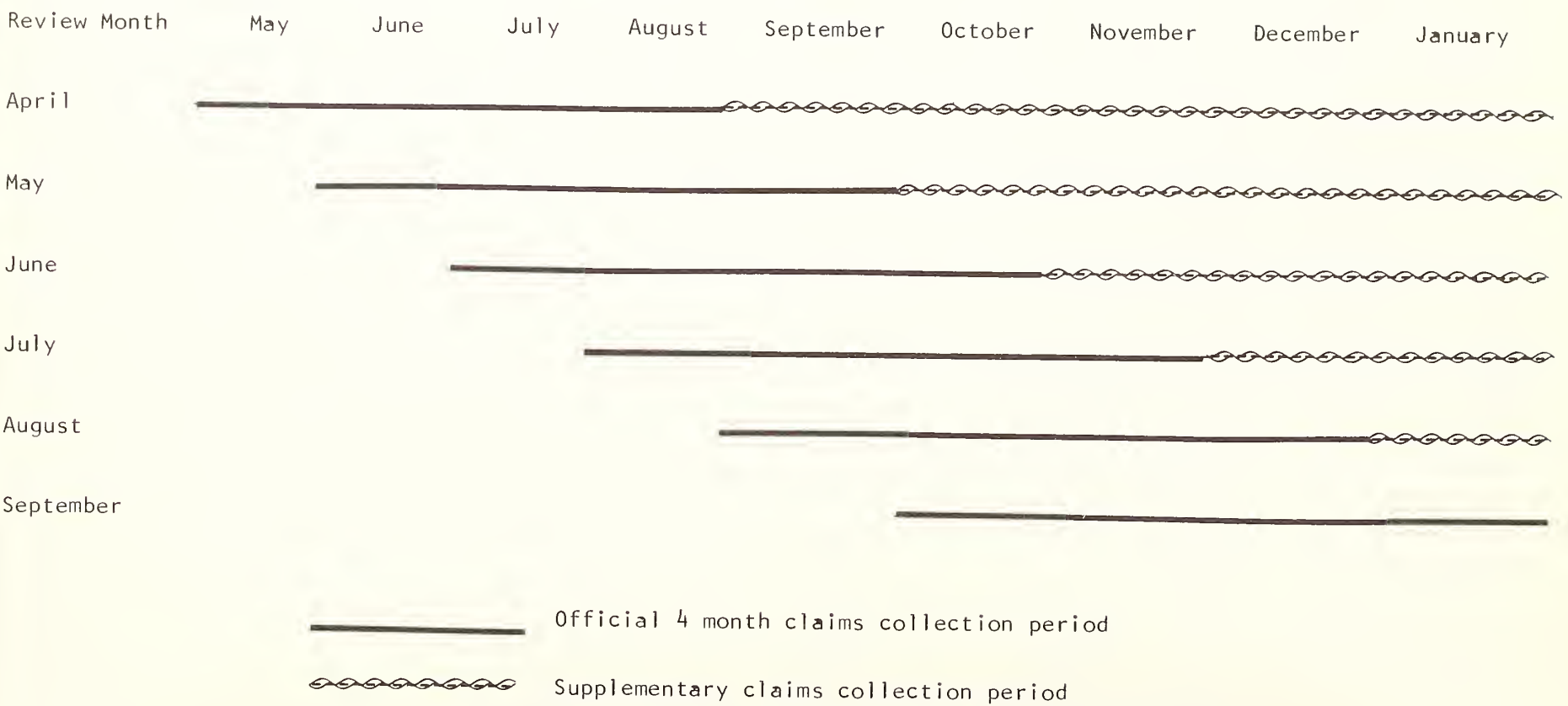
In Exhibit D-2 the necessary data on individual sample cases by eligibility status is shown, for a typical 6 month reporting period. Note that this information is collected by month of review for each stratum - AFDC, MAO, or SSI (if applicable), and by sub-stratum if necessary.

Case findings are recorded by month of review and the dollars of paid claims associated with these findings are tabulated for 4 months after this month as a block, and monthly thereafter.

Briefly, the correction factor methodology involves collecting payment data for the months after the initial 4-month cut off. Ineligibility payment error rates in these later periods are then computed, weighted based upon the number of data months collected, and used to adjust error rates computed from 4-month data.

EXHIBIT D-1

CLAIMS CUTOFF SCHEMATIC



NOTE: CLAIMS ARE ALSO COLLECTED DURING THE REVIEW MONTH

EXHIBIT D-2

CORRECTION FACTOR WORKSHEET FOR 4-MONTH CUTOFF

DOLLARS	CASES SELECTED FOR APRIL						CASES SELECTED FOR MAY					CASES SELECTED FOR JUNE				CASES SELECTED FOR JULY			CASES SELECTED FOR AUGUST	
	Month Collected						Month Collected					Month Collected				Month Collected			Month Collected	
	Apr.-Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	May-Sept.	Oct.	Nov.	Dec.	Jan.	June-Oct.	Nov.	Dec.	Jan.	July-Nov.	Dec.	Jan.	Aug.-Dec.	Jan.
Dollars Paid for Correct Cases																				
Dollars Paid for Ineligible Recipient Cases																				
Dollars Paid for CLU Cases																				
Dollars Paid for CLO Cases																				
CASES																				
Number Correct Cases																				
Number Ineligible Cases																				
Number CLU Cases																				
Number CLO Cases																				

CMS LIBRARY
3 8095 00014943 1